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2019 Census of Horticultural Specialties

Interviewer's Manual

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1 General

Census of Horticultural Studies

1.1 Background and History

For more than 150 years, the U.S. Department of Commerce, Bureau of the Census, conducted the census of agriculture and related censuses and surveys. However, the 1997 Appropriations Act transferred the responsibility from the Bureau of the Census to the U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). The census of horticultural specialties is a part of the agricultural census program.

The 2019 Census of Horticultural Specialties is the eleventh census of horticultural specialties. Previous horticultural specialties censuses were conducted in conjunction with the census of agriculture and were taken in 1889, 1929, 1949, 1959, 1970, 1979, 1988, 1998, 2009, and 2014. The 2019 Census of Horticultural Specialties includes producers of floriculture, nursery, and other specialty crops, such as sod, and food crops produced under glass or other protection, transplants for commercial production, and seeds.

The primary objective of the horticultural specialties census is to obtain a comprehensive and detailed picture of the horticultural sector of the economy. It is the only source of detailed production and sales data at the national level. The census of horticultural specialties provides detailed statistics to government agencies, academia, nursery and floriculture industries, and others on the size and structure of the horticulture industry for planning, policymaking, research, and market analysis.

Commercial Floriculture Survey

NASS began surveying and making commercial floriculture estimates in 1956. At that time, it was a five State survey of five cut flowers. Over the years the survey was expanded to include 36 States, and the coverage of commodities has changed significantly as the industry evolved. For 2019, there are seventeen program states.

Government uses the survey data to measure the economic impact of the industry. The floriculture industry is a significant part of agriculture. The Society of American Florists

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(SAF) and other industry representatives use NASS data to promote the industry and to support funding requests for research projects. These data are also used to support industry claims in cases involving unfair trade practices and in trade negotiations.

Commercial floriculture estimates are used by all segments of the industry to plan for the future. Technology has changed production practices, tissue culture propagation has accelerated production, and new products are being developed every year. To keep abreast of such changes industry, growers and suppliers need production data to help identify State and national trends. Individual growers can compare their own operation to the published report as they plan the future of their businesses.

1.2 Scope

The Census of Horticultural Specialties sample targeted all commercial horticulture operations which produced and sold \$10,000 or more of horticultural crop sales or have the potential to produce and sell \$10,000 or more of the items of interest. In Hawaii only, to support an External Project Agreement with the Hawaii Department of Agriculture, a complete enumeration of all entities on the sampling frame with horticultural activity will be conducted. The Commercial Floriculture sample was selected as it normally would have been selected for the annual survey based on cT909. The Commercial Floriculture sample is a subset of the Census of Horticultural Specialties.

For the 2019 Census of Horticultural Specialties, NASS will combine the data collection activities with the 2020 Commercial Floriculture Survey to reduce respondent burden and minimize data collection expenses. NASS conducts an annual survey of all commercial floriculture producers in the United States. The survey includes all operations that produce and sell \$10,000 or more of fresh cut flowers, potted flowering plants, foliage plants, bedding plants, or cut cultivated greens during the survey year. By definition, commercial floriculture production is a horticultural specialty and consequently, all operations identified for inclusion in the commercial floriculture survey were included on the horticultural specialties mail list.

The 2019 Census of Horticultural Specialties questionnaire includes all questions ordinarily asked in the annual commercial floriculture survey. This format ensures that respondents who qualify for both the census and the survey do not have to file the same information in two separate reports.

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1.3 States

The 2019 Census of Horticultural Specialties will be conducted in all 50 States.

The following 17 states are part of the Commercial Floriculture Program:

Alaska	California	Colorado
Connecticut	Florida	Illinois
Michigan	New Jersey	New York
North Carolina	Ohio	Oregon
Pennsylvania	Texas	Virginia
Wisconsin	Washington	

Please see [Appendix A](#) for a listing of **State Abbreviations** and FIPS codes.

1.4 Legal Authority

The census of agriculture is required by law under the “Census of Agriculture Act of 1997,” Public Law 105-113 (Title 7, United States Code, Section 2204g). The law authorizes the Secretary of Agriculture to conduct surveys deemed necessary to furnish annual or other data on the subjects covered by the census. The 2019 Census of Horticultural Specialties is conducted under the provisions of this section.

2019 Census of Horticultural Specialties Survey

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2 Terms and Definitions

Enumerators working on the 2019 Census of Horticultural Specialties should be familiar with the definitions of the terms listed below.

2.1 Agricultural Work

Work done on a farm or ranch in connection with the production of agricultural products, including nursery and greenhouse products and animal specialties such as furs, fish, apiaries, etc. Certain work may take the operator, employee, etc. off the farm, such as trips to buy feed, supplies, or machinery parts, deliver products to local market or handle other farm related business.

2.2 Annual

A plant that completes its life cycle from seed to plant, flower, and produces new seeds in one year or less. However, annuals in one State may be perennials in another State.

2.3 Balled and Burlap (B&B)

The covering with burlap or similar mesh fabrics of compact mass of earth containing the roots of the plant in transplanting. The plant can be moved safely for considerable distance and replanted successfully.

2.4 Bare Root

A method of transplanting in which plants are taken from the ground with little soil left on the roots.

2.5 Bedding Plant

A flowering and vegetable type plant intended for outdoor use. A flowering plant is transplanted to beautify the landscape and can be annual, biennial, or perennial. Bedding plants include Begonia, Geranium, Impatiens, New Guinea Impatiens, Marigold, Pansy/Viola, and Petunia among others, and may also be used in patio pots, window boxes, and hanging baskets. Vegetable transplants intended for use by the home gardener are to be included on the floriculture survey; those meant for commercial production are excluded.

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2.6 Biennial

A plant requiring two years, or at least a part of two growing seasons, with a dormant period between growth stages, to complete its life cycle.

2.7 Bloom

The blossom or flower part of the plant and the unit by which some cut flowers are sold.

2.8 Bunch

The unit by which some fresh cut flowers, such as miniature carnations and Pompon Chrysanthemums, are sold. There is no standard size, thus bunch size may vary depending upon the State they are grown in and the time of year.

2.9 Cell Pack

A sub-unit of a flat which facilitates retail sales.

2.10 Color Bowl

Containers of annuals and mixed annuals, such as color bowls, strawberry jars, or combination planters should be reported as pots. This is a relatively new trend in Floriculture where mixed varieties of flowers are arranged in bowls, baskets, or pots, and even oval or oblong containers. These types of mixed arrangements should be recorded in All Other Flowering and Foliar Plants. Note: Mixed flower hanging baskets should be reported in the Hanging Basket category.

2.11 Coniferous

Woody trees or shrubs that are cone-bearing and usually evergreen with needle or scale leaves.

2.12 Container-grown

A plant grown and marketed in a container.

2.13 Covered Production Area

Any growing area with a permanent or temporary cover such as glass, fiberglass, plastic or saran.

2.14 Crop Turn

Indicates that the same growing area is used to grow more than one crop, same as refilling.

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2.15 Cut Cultivated Green

Any non-flowering plant material used with flowers in arrangements including Leatherleaf Ferns, other Ferns, Holly, and evergreens. Exclude greens cut in the wild.

2.16 Cut Flower

A flower that has been removed from a growing plant. Cut flowers include Alstroemeria, Standard Carnation, Pompon Chrysanthemum, Delphinium & Larkspur, Gerbera Daisy, Gladioli, Iris, All Lilies, Lisianthus, All Orchids, All Roses, Snapdragon, and Tulip.

2.17 Deciduous

Woody plants whose leaves fall at the end of the growing season.

2.18 Evergreen

Woody plants whose leaves stay green year around.

Note: Whether a tree or plant is an evergreen or deciduous can depend upon the climate of the region in which it is grown. A plant could be considered evergreen in southern regions but deciduous in a northern climate. For the purposes of this survey, the plant should be classified based on where it is grown.

2.19 Fiberglass

A milky sheet, rigid, nearly always corrugated, widely used as a greenhouse roof and /or walls.

2.20 Film Plastic

Flexible products made from polyethylene or similar material with varying thickness. Life expectancy varies according to the use, climate and other weather conditions, but replacement of the material may be required as often as every three years. Plastic coverings are a popular alternative to rigid materials because of the low initial cost. Also, flexible products are used with many automatic roof openers that control temperature and humidity.

2.21 Finished Plant

A plant that is ready for retail sale so that no additional growing is required after transfer to a retail outlet such as a florist or mass merchandiser, or to a final consumer such as a home gardener or landscape installer.

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2.22 Flat

A shallow tray divided into cells containing soil where seeds are sown or seedlings are transplanted. The Floriculture questionnaire defines a standard flat size to be from 10" x 20" to 11" x 22" which does not include 17" x 17" trays.

2.23 Foliage Plant

Any plant grown primarily for its foliage and utilized for indoor decoration or interior landscaping. While foliage plants may have flowers, these will be secondary compared to its foliage features.

2.24 Glass Covered

Any structure that is covered with a glass roof. The drawbacks to this type of greenhouse are the cost of the product and its inefficient insulating properties. The advantage is its durability.

2.25 Greenhouse

Any of several different types of heated, glass or plastic covered rigid framed structures used for the growing of plants.

2.26 Ground Cover

Includes all kinds of plants such as perennials, shrubs, and sprawling vines that have the ability to spread rapidly, grow close to the ground, and create a thick, low-maintenance covering that will hold the soil in place.

2.27 Growing-on

Taking a plant started by another grower or supplier (pre-finished) and growing it until it is finished and ready to sell to the final consumer.

2.28 Hanging Basket

A specialized container used for bedding and foliage plants for indoor or patio decoration.

2.29 Herbaceous Perennial

A non-woody plant that that lives three years or more under local conditions such as hardy/garden Chrysanthemums or Hostas. The above ground parts of these plants are generally killed to the ground by frost late in autumn, but the roots and/or rhizomes live through the winter. A list of common herbaceous perennials is included at the end of this chapter.

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2.30 Holding

Maintaining finished merchandise purchased from other growers until sold to a final consumer.

2.31 Liner

A single tray of small plants produced from plugs, rooted cuttings, seeds, seedlings, or tissue cultured plantlets. When the plants reach sufficient size, they are transferred to cell packs or small pots for growing-on, either in a greenhouse or in field rows. The latter is traditionally referred to as lining out stock for nurseries. Broadcast or sprinkle seeded liner trays of potting mixture are used for plants that have very small seeds or have poor germination rates.

2.32 Natural Shade

Shade provided by trees or other taller plants.

2.33 Nursery Plant

A plant belonging to one of these major categories: broadleaf evergreens, coniferous evergreens, deciduous shade and flowering trees, deciduous shrubs (e.g., roses), fruit and nut trees, small fruit plants, palms for landscaping, ornamental grasses, ground covers and vines, transplants for commercial vegetable and strawberry production, and propagative nursery material (e.g., young plants, understock, and seedlings).

2.34 Pack

A sub-unit of a flat which facilitates retail sales.

2.35 Perennial

A plant with a life-span greater than two years.

2.36 Plug

A term used to describe single plant transplants usually grown from seeds sown mechanically into a plug tray (see next entry). Plugs are transplanted to final containers for finishing. The number of plugs per standard tray varies from fewer than 100 to 800.

2.37 Plug Tray

A tray of single-plant transplants (see Plug above) too small to be sold to retail customers. These trays are sold to other growers and the plants will be transferred to either larger cell packs or pots for finishing.

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2.38 Polyethylene (poly)

Flexible, soft, milky plastic sheets, widely used for greenhouse roofs and walls.

2.39 Pot Carrier

A plastic tray that holds various size pots for transport to retail facilities. Pot carriers are approximately the same size as flats, but should not to be confused with flats, since plants are potted separately in the carrier. Flats contain cell packs rather than pots.

2.40 Pot-in-pot

A method of container-grown nursery production, whereby a container is placed into another large container which has been placed in the ground, surrounded by soil or mulching material.

2.41 Potted Flowering Plant

A plant used for indoor or patio use. Referred to as "pot crops" by the industry. Potted flowering plants include African Violet, finished florist Azalea (showing color), florist Chrysanthemum, Easter Lilies, all Orchids, Poinsettia, florist Rose, spring flowering bulbs and other potted flowering plants.

2.42 Pre-finished Plant

A plant not ready for retail sale. Many growers purchase pre-finished plants at a wholesale prices, finish or grow on these plants then sell the finished product to a retailer or directly to consumers.

2.43 Processed Balled Plant

A plant dug bare root, while dormant, to which a moist growing medium is added around the roots to form a ball designed to sustain plant growth.

2.44 Production Area

That area devoted to producing floriculture crops. Includes aisles, alleys, and other areas that are necessary for production but not devoted to it. The area may be indoors or outdoors. Excludes roads and parking lots and non-floriculture production area such as nurseries.

2.45 Propagative Material

Bareroot perennials, cuttings, liners, plug seedlings, pre-finished plants and tissue cultures. For the floriculture survey, includes only material for the flower crop categories on the CFS questionnaire. Seeds, bulbs, corms (similar to head of garlic), rhizomes (e.g. iris bulbs), and tubers are excluded from floriculture propagative material.

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2.46 Refilling

Using the same area to grow crops more than once during the year.

2.47 Retail Sale

Sale made directly to the consumer.

2.48 Rigid Plastic

Rigid plastic materials, including fiberglass and structured sheets, which offer a lower cost alternative to glass.

2.49 Seedling

The early growth stage of a plant grown from seed as it emerges out of the ground (also can refer to a tree grown from seed which has not been budded or grafted).

2.50 Shade Structure

A structure made with shade cloth or slats used to provide some shade from direct sunlight but which does not provide control over temperature and humidity as do other types of coverings.

2.51 Spike

A stalk or stem having more than one bloom or flower. The unit of sale for cut Gladiolus and Snapdragon.

2.52 Sprig or Stolon

Individual plant or sections of a plant containing several nodes from which new plants may develop.

2.53 Stem

The portion of the plant that supports the bloom and on which the bloom grows (also the unit of sale for many cut flowers).

2.54 Structured Sheet

A clear, rigid sheet used for greenhouse roofs and sides. Some are single layers and some are two layers ribbed together with dead air space between for insulation. Polycarbonate is the most widely used structured sheet. Acrylic gives more light penetration than polycarbonate.

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2.55 Tissue Culture

The process of growing living tissue in a prepared medium, (also the tissue grown by this technique). The advantage of propagating plants by tissue culture is the ability to produce a large number of plants (plantlets) very quickly without soil. Plants are usually grown in test tubes, flasks, petri dishes, and vials.

2.56 Under stock or Root stock

The part of the plant including the roots, on which another variety has been budded or grafted.

2.57 Wholesale Sale

Sale made to a retailer. Usually in larger quantity and at a lower price than a retail sale.

3 List of Common and Genus Horticultural Plant Names

Crops in Alphabetical order by Section

Section	Name
1	Alstroemeria (Cut Flowers)
1	Anemone (Cut Flowers)
1	Anthurium (Cut Flowers)
1	Aster (Cut Flowers)
1	Bird of Paradise/ <i>(Strelitzia)</i> (Cut Flowers)
1	Calla Lilies (Cut Flowers)
1	Campanula (Cut Flowers)
1	Carnations, miniature (Cut Flowers)
1	Carnations, standard (Cut Flowers)
1	Celosia (Cut Flowers)
1	Chrysanthemums, other (Cut Flowers)
1	Chrysanthemums, pompon (Cut Flowers)
1	Cosmos (Cut Flowers)
1	Daffodil/ <i>Narcissus</i> (Cut Flowers)
1	Dahlia (Cut Flowers)
1	Dianthus (other than Carnations) (Cut Flowers)
1	Dried Flowers (value of sales only) (Cut Flowers)
1	Flowering Cabbage or Kale/ <i>Brassica</i> (Cut Flowers)
1	Freesia (Cut Flowers)
1	Gerbera Daisies (Cut Flowers)
1	Ginger and Heliconia (Cut Flowers)
1	Ginger, pink (Cut Flowers, HI)
1	Ginger, red (Cut Flowers, HI)
1	Ginger, other (Cut Flowers, HI)
1	Gladioli (Cut Flowers)
1	Godetia (Cut Flowers)
1	Gypsophila (Cut Flowers)

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Section	Name
1	Heather (Cut Flowers)
1	Heliconia (Cut Flowers, HI)
1	Hydrangea (Cut Flowers)
1	Ilex (Cut Flowers)
1	Iris (Cut Flowers)
1	Larkspur/ <i>Delphinium</i> (Cut Flowers)
1	Lei flowers, Carnation (Cut Flowers, HI)
1	Lei flowers, Vandaceous Orchids (Cut Flowers, HI)
1	Lei flowers, Dendrobium Orchids (Cut Flowers, HI)
1	Lei flowers, Pikake (Cut Flowers, HI)
1	Lei flowers, Plumeria (Cut Flowers, HI)
1	Lei flowers, Tuberosa (Cut Flowers, HI)
1	Lei flowers, other (Cut Flowers, HI)
1	Leptospermum (Cut Flowers)
1	Liatris (Cut Flowers)
1	Lily, Asiatic (Cut Flowers)
1	Lily, Oriental (Cut Flowers)
1	Lily, other (Cut Flowers)
1	Limonium (Cut Flowers)
1	Lisianthus (Cut Flowers)
1	Marguerite daisies (Cut Flowers)
1	Matricaria (Cut Flowers)
1	Orchids, Cattleya (Cut Flowers)
1	Orchids, Cymbidium (Cut Flowers)
1	Orchids, Dendrobium (Cut Flowers)
1	Orchids, Oncidiinae (Cut Flowers, HI)
1	Orchids, Phalaenopsis (Cut Flowers)
1	Orchids, Vandaceous (Cut Flowers, HI)
1	Orchids, Other (Cut Flowers)
1	Peony (Cut Flowers)
1	Protea (Cut Flowers)
1	Rose, garden (Cut Flowers)
1	Rose, hybrid tea (Cut Flowers)
1	Rose, spray type (Cut Flowers)
1	Rose, sweetheart (Cut Flowers)

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Section	Name
1	Snapdragons (Cut Flowers)
1	Solidago (Cut Flowers)
1	Statice (Cut Flowers)
1	Stephanotis (Cut Flowers)
1	Stock (Cut Flowers)
1	Sunflower (Cut Flowers)
1	Trachelium (Cut Flowers)
1	Tulips (cut only) (Cut Flowers)
1	Waxflower (Cut Flowers)
1	Zinnia (Cut Flowers)
1	Other Cut Flowers (Cut Flowers)

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Section	Name
2	African Violets (Potted Flowering Plants)
2	Alstroemeria (Potted Flowering Plants)
2	Anthurium (Potted Flowering Plants)
2	Azaleas, finished florist (Potted Flowering Plants)
2	Begonias (Potted Flowering Plants)
2	Bromeliad (Potted Flowering Plants, HI)
2	Cape Primrose/ <i>(Streptocarpus)</i> (Potted Flowering Plants)
2	Chrysanthemums, florist (Potted Flowering Plants)
2	Cineraria (Potted Flowering Plants)
2	Combination planters (Potted Flowering Plants)
2	Cyclamens (Potted Flowering Plants)
2	Exacum (Potted Flowering Plants)
2	Gardenias (Potted Flowering Plants)
2	Gerbera daisies (Potted Flowering Plants)
2	Gloxinias (Potted Flowering Plants)
2	Hibiscus, potted (Potted Flowering Plants)
2	Hydrangea (Potted Flowering Plants)
2	Kalanchoes (Potted Flowering Plants)
2	Lilies, Easter (Potted Flowering Plants)
2	Lilies, other (Potted Flowering Plants)
2	Orchid, Dendrobium (Potted Flowering Plants)
2	Orchid, Oncidiinae (Potted Flowering Plants, HI)
2	Orchid, other (Potted Flowering Plants)
2	Orchid, Phalaenopsis (Potted Flowering Plants)
2	Poinsettias (Potted Flowering Plants)
2	Primula (Potted Flowering Plants)
2	Regal Pelargonium (Potted Flowering Plants)
2	Roses, florist potted (Potted Flowering Plants)
2	Sunflowers (Potted Flowering Plants)
2	<i>Zygocactus/Schlumbergera</i> (Potted Flowering Plants)
2	Other potted flowering plants (Potted Flowering Plants)
2	Crocus (Potted Spring Flowering Bulbs)
2	Daffodils/ <i>Narcissus</i> (Potted Spring Flowering Bulbs)

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Section	Name
2	Hyacinth (Potted Spring Flowering Bulbs)
2	Tulips (Potted Spring Flowering Bulbs)
2	Other Potted Spring Flowering Bulbs

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Section	Name
3	<i>Achillea</i> (Herbaceous Perennials)
3	<i>Ajuga</i> (Herbaceous Perennial)
3	<i>Asclepias</i> (Herbaceous Perennial)
3	Astilbe (Herbaceous Perennial)
3	Bleeding Heart/ <i>Dicentra</i> (Herbaceous Perennial)
3	Campanula (Herbaceous Perennial)
3	Chrysanthemums (hardy/garden) (Herbaceous Perennial)
3	Clematis, non-climbing
3	Columbine (Herbaceous Perennial)
3	Coral Bells/ <i>Heuchera</i> (Herbaceous Perennial)
3	Coreopsis (Herbaceous Perennial)
3	Daylilies (Herbaceous Perennial)
3	<i>Delosperma</i> (Herbaceous Perennial)
3	Dianthus (Herbaceous Perennial)
3	<i>Echinacea</i> , other (Herbaceous Perennial)
3	Ferns, hardy/garden (Herbaceous Perennial)
3	Foxglove/ <i>Digitalis</i> (Herbaceous Perennial)
3	<i>Gaillardia</i> (Herbaceous Perennial)
3	<i>Gaura</i> (Herbaceous Perennial)
3	Hibiscus (Herbaceous Perennial)
3	Hostas (Herbaceous Perennial)
3	<i>Iberis</i> (Herbaceous Perennial)
3	Iris (Herbaceous Perennial)
3	Larkspur/ <i>Delphinium</i> (Herbaceous Perennial)
3	Lavender (Herbaceous Perennial)
3	<i>Lithodora</i> (Herbaceous Perennial)
3	Lobelia (Herbaceous Perennial)
3	Lupine (Herbaceous Perennial)
3	<i>Penstemon</i> (Herbaceous Perennial)
3	Peonies (Herbaceous Perennial)
3	Phlox (Herbaceous Perennial)
3	<i>Physostegia</i> (Herbaceous Perennial)
3	<i>Platycodon</i> (Herbaceous Perennial)
3	Poppy/Papaver (Herbaceous Perennial)
3	Purple coneflower/ <i>Echinacea</i> (Herbaceous Perennial)

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Section	Name
3	Rudbeckia (Herbaceous Perennial)
3	Russian Sage/ <i>Perovskia</i> (Herbaceous Perennial)
3	Salvia (Herbaceous Perennial)
3	Scabiosa (Herbaceous Perennial)
3	Sedum (Herbaceous Perennial)
3	Shasta Daisy/ <i>Leucanthemum</i> (Herbaceous Perennial)
3	<i>Verbascum</i> (Herbaceous Perennial)
3	Veronica (Herbaceous Perennial)
3	Other herbaceous perennials

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Section	Name
4	Ageratum (Annual Bedding/Garden Plants)
4	Alyssum, sweet/ <i>Lobularia</i> (Annual Bedding/Garden Plants)
4	Angelonia (Annual Bedding/Garden Plants)
4	<i>Bacopa</i> (Annual Bedding/Garden Plants)
4	Begonias (Annual Bedding/Garden Plants)
4	Black-eyed Susan Vine/ <i>Thunbergia</i> (Annual Bedding/Garden Plants)
4	Caladium (Annual Bedding/Garden Plants)
4	Calendula (Annual Bedding/Garden Plants)
4	Calibrachoa (Annual Bedding/Garden Plants)
4	Canna (Annual Bedding/Garden Plants)
4	Celosia (Annual Bedding/Garden Plants)
4	Cleome (Annual Bedding/Garden Plants)
4	Coleus (Annual Bedding/Garden Plants)
4	Cosmos (Annual Bedding/Garden Plants)
4	Dahlia (Annual Bedding/Garden Plants)
4	Dianthus (Annual Bedding/Garden Plants)
4	Dusty Miller (Annual Bedding/Garden Plants)
4	<i>Euphorbia</i> (Annual Bedding/Garden Plants)
4	Flowering cabbage or kale/ <i>Brassica</i> (Annual Bedding/Garden Plants)
4	Fuchsia (Annual Bedding/Garden Plants)
4	Gazania (Annual Bedding/Garden Plants)
4	Geraniums from vegetative cuttings (Annual Bedding/Garden Plants)
4	Geraniums from seeds and plug seedlings (Annual Bedding/Garden Plants)
4	Gerbera Daisy (Annual Bedding/Garden Plants)
4	Gomphrena (Annual Bedding/Garden Plants)
4	Impatiens, interspecific hybrids (Annual Bedding/Garden Plants)
4	Impatiens, New Guinea (Annual Bedding/Garden Plants)
4	Impatiens, other/ <i>I. walleriana</i> (Annual Bedding/Garden Plants)
4	Lantana (Annual Bedding/Garden Plants)
4	Lisianthus (Annual Bedding/Garden Plants)
4	Lobelia (Annual Bedding/Garden Plants)
4	Marigolds (Annual Bedding/Garden Plants)
4	Millet, ornamental (Annual Bedding/Garden Plants)

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Section	Name
4	Nasturtium (Annual Bedding/Garden Plants)
4	Nicotiana (Annual Bedding/Garden Plants)
4	Osteospermum (Annual Bedding/Garden Plants)
4	Pansies/(<i>Violas</i>) (Annual Bedding/Garden Plants)
4	Pentas (Annual Bedding/Garden Plants)
4	Peppers, ornamental (Annual Bedding/Garden Plants)
4	Petunias (Annual Bedding/Garden Plants)
4	Poppy (annual) (Annual Bedding/Garden Plants)
4	Portulaca (Annual Bedding/Garden Plants)
4	Ranunculus (Annual Bedding/Garden Plants)
4	Rudbeckia (Annual Bedding/Garden Plants)
4	Salvia, annual (Annual Bedding/Garden Plants)
4	Scaevola (Annual Bedding/Garden Plants)
4	Snapdragon (Annual Bedding/Garden Plants)
4	Sweet potato vine/ <i>Ipomea</i>
4	Verbena (Annual Bedding/Garden Plants)
4	<i>Vinca/Catharanthus roseus</i>
4	Zinnia (Annual Bedding/Garden Plants)
4	Combination planter/color bowl (Annual Bedding/Garden Plants)
4	Other flowering and foliar annuals (Annual Bedding/Garden Plants)
4	Broccoli, cabbage, cauliflower, and other crucifers (Vegetable Type Bedding Plants)
4	Herbs, culinary (Vegetable Type Bedding Plants)
4	Peppers, all (excluding ornamentals) (Vegetable Type Bedding Plants)
4	Tomatoes, all (Vegetable Type Bedding Plants)
4	Other vegetable type bedding plants (Vegetable Type Bedding Plants)

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Section	Name
5	Agave (Foliage Plants)
5	Aglaonema (Foliage Plants)
5	<i>Alocasia/Colocasia</i> (Foliage Plants)
5	Anthurium (Foliage Plants)
5	Bromeliad (Foliage Plants)
5	Cacti and succulents (Foliage Plants)
5	Combination planters (Foliage Plants)
5	<i>Cordyline</i> (Foliage Plants)
5	Croton (Foliage Plants)
5	Dieffenbachia (Foliage Plants)
5	Dracaena (Foliage Plants)
5	<i>Epipremnum</i> (Foliage Plants)
5	Ferns (tropical) (Foliage Plants)
5	Ficus (Foliage Plants)
5	Ivy/ <i>Hedera</i> (Foliage Plants)
5	<i>Maranta/Calathea</i> (Foliage Plants)
5	<i>Nephtytis/Syngonium</i> (Foliage Plants)
5	Palms (Foliage Plants)
5	Philodendron (Foliage Plants)
5	Pothos (Foliage Plants)
5	<i>Sanseveria</i> (Foliage Plants)
5	Schefflera (Foliage Plants)
5	Spathiphyllum (Foliage Plants)
5	Other Foliage Plants (Foliage Plants)

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Section	Name
6	<i>Aralia</i> (Cut Greens)
6	Asparagus, other (Cut Greens)
6	Asparagus, plumosus (Cut Greens)
6	Asparagus, tree fern (Cut Greens)
6	Aspidistra (Cut Greens)
6	Berzelia (Cut Greens)
6	Boxwood (Cut Greens)
6	<i>Calathea</i> (Cut Greens)
6	Coniferous Evergreens (Cut Greens)
6	Curly Willow (Cut Greens)
6	Eucalyptus (Cut Greens)
6	Holly (Cut Greens)
6	Ivy/ <i>Hedera</i> (Cut Greens)
6	Leatherleaf Ferns (Cut Greens)
6	Leucadendron (Cut Greens)
6	Lily Grass (Cut Greens)
6	Lilyturf/ <i>Liriope</i> (Cut Greens)
6	Magnolia (Cut Greens)
6	Melaleuca (Cut Greens)
6	<i>Monstera</i> (Cut Greens)
6	Myrtle (Cut Greens)
6	Olive (Cut Greens)
6	Pittosporum (Cut Greens)
6	Podocarpus (Cut Greens)
6	Ruscus (Italian and Israeli) (Cut Greens)
6	Ruscus, other (Cut Greens)
6	Ti/ <i>Cordyline</i> Leaves (Cut Greens)
6	Ti Leave, floral use (Cut Greens)
6	Ti Leaves, other uses (Cut Greens)
6	Other Cut Cultivated Greens (value of sales only)

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Section	Name
16	Aglaonema (Foliage Plant Liners)
16	Annual Bedding/Garden Plants (Plug Seedlings)
16	Annual Bedding/Garden Plants (Tissue Cultured Plantlets)
16	Azalea (florist) (Prefinished Plants)
16	Broadleaf Evergreens (Nursery Stock Liners)
16	Chrysanthemums (Bedding and Flowering Plant Liners)
16	Chrysanthemums (Cuttings)
16	Citrus and Subtropical Fruit Trees (Nursery Stock Liners)
16	Coniferous Evergreens (Nursery Stock Liners)
16	Cut Flowers (Plug Seedlings)
16	Cut Flowers (Tissue Cultured Plantlets)
16	Cut Flower Seedlings, Orchids, Dendrobium (Plug Seedlings)
16	Cut Flower Seedlings, All Other Orchids (Plug Seedlings)
16	Cut Flower Seedlings, All other (Plug Seedlings)
16	Deciduous Flowering Trees (Nursery Stock Liners)
16	Deciduous Fruit and Nut Trees (Nursery Stock Liners)
16	Deciduous Shade Trees (Nursery Stock Liners)
16	Deciduous Shrubs, except roses (Nursery Stock Liners)
16	Dieffenbachia (Foliage Plant Liners)
16	Dracaena (Foliage Plant Liners)
16	Easter Lilies (Prefinished Plants)
16	Ferns, potted (Foliage Plant Liners)
16	Foliage plants (Cuttings)
16	Foliage plants (Plug Seedlings)
16	Foliage plants (Prefinished Plants)
16	Foliage Plants (Tissue Cultured Plantlets)
16	Geraniums (Bedding and Flowering Plant Liners)
16	Geraniums (Cuttings)

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Section	Name
16	Herbaceous Perennials (Bedding and Flowering Plant Liners)
16	Herbaceous Perennials (Cuttings)
16	Herbaceous Perennials (Plug Seedlings)
16	Herbaceous Perennials (Tissue Cultured Plantlets)
16	Hibiscus (potted) (Prefinished Plants)
16	Impatiens, New Guinea (Bedding and Flowering Plant Liners)
16	Impatiens, New Guinea (Cuttings)
16	Kalanchoes (Bedding and Flowering Plant Liners)
16	Kalanchoes (Cuttings)
16	Lilies, Easter (Prefinished Plants)
16	Nursery stock (Cuttings)
16	Nursery Stock (Plug Seedlings)
16	Nursery Stock (Tissue Cultured Plantlets)
16	Orchid (Prefinished Plants)
16	Orchids, Dendrobium, Potted Plant Seedlings, all other orchids (Plug Seedlings)
16	Other Bedding Plant Liners (Bedding and Flowering Plant Liners)
16	Other Cuttings (Cuttings)
16	Other Flowering Plant Liners (Bedding and Flowering Plant Liners)
16	Other Foliage Plant Liners (Foliage Plant Liners)
16	Other Nursery Plant Liners (Nursery Stock Liners)
16	Other Plug Seedlings (Plug Seedlings)
16	Other Prefinished Flowering Plants (Pre-finished Flowering Plants)
16	Other Tissue Cultured Plantlets (Tissue Cultured Plantlets)
16	Philodendron (Foliage Plant Liners)
16	Poinsettia (Prefinished Plants)
16	Poinsettias (Bedding and Flowering Plant Liners)
16	Poinsettias (Cuttings)
16	Pothos/ <i>Epipremnum</i> (Foliage Plant Liners)
16	Potted Plant Seedlings - Orchids, all other (Plug Seedlings)
16	Potted Plant Seedlings - Orchids, dendrobium (Plug Seedlings)
16	Potted Plant Seedlings, All Other (Plug Seedlings)
16	Potted Flowering Plants (Plug Seedlings)
16	Potted Flowering Plants (Tissue Cultured Plantlets)
16	Roses (potted) (Prefinished Plants)

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Section	Name
16	Roses, landscape (Nursery Stock Liners)
16	Spathiphyllum (Foliage Plant Liners)

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Nursery Crops in Alphabetical Order by Type of Plant

Name	Type of Plant
Amelanchier	Deciduous Flowering Trees
Arborvitae	Coniferous Evergreens
Ash	Deciduous Shade Trees
Azalea	Broadleaf Evergreens
Barberry	Deciduous Shrubs
Bareroot herbaceous perennials, all	Bareroot Herbaceous Perennials
Birch	Deciduous Shade Trees
Boxwood	Broadleaf Evergreens
Buddleias	Deciduous Shrubs
Cacti and Succulents, all	Cacti and Succulents
Callery pear	Deciduous Flowering Trees
Cedar	Coniferous Evergreens
Citrus and Subtropical Fruit Trees	Fruit and Nut Plants
Clematis, climbing	Woody Ornamentals and Vines
Cotoneaster	Broadleaf Evergreens
Crabapple	Deciduous Flowering Trees
Crapemyrtle	Deciduous Flowering Trees
Cypress	Coniferous Evergreens
Deciduous Fruit and Nut Trees	Fruit and Nut Plants
Dogwood	Deciduous Flowering Trees
Euonymus	Broadleaf Evergreens
Fir	Coniferous Evergreens
Flowering Cherry	Deciduous Flowering Trees
Flowering Plum	Deciduous Flowering Trees
<i>Glyceria</i>	Ornamental Grasses
Golden rain	Deciduous Flowering Trees
Grapevines	Fruit and Nut Plants
Hawthorn	Deciduous Flowering Trees
Hemlock	Coniferous Evergreens
Hibiscus	Deciduous Shrubs
Holly	Broadleaf Evergreens
Honey Locust	Deciduous Shade Trees
Hydrangeas	Deciduous Shrubs
Japanese Maple	Deciduous Shade Trees

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Juniper	Coniferous Evergreens
Landscaping Palms, all	Landscaping Palms
Lilacs	Deciduous Shrubs
Linden	Deciduous Shade Trees
Live Christmas Trees	Coniferous Evergreens
Magnolia	Broadleaf Evergreens
Magnolia	Deciduous Flowering Trees
Maple, Japanese	Deciduous Shade Trees
Maple, Norway	Deciduous Shade Trees
Maple, other	Deciduous Shade Trees
Maple, red	Deciduous Shade Trees
Maple, sugar	Deciduous Shade Trees
Norway Maple	Deciduous Shade Trees
Oak	Deciduous Shade Trees
Ornamental Grasses, All	Ornamental Grasses
Other Broadleaf Evergreens	Broadleaf Evergreens
Other Coniferous Evergreens	Coniferous Evergreens
Other Deciduous Flowering Trees	Deciduous Flowering Trees
Other Deciduous Shade Trees	Deciduous Shade Trees
Other Deciduous Shrubs	Deciduous Shrubs
Other Fruit and Nut Trees	Fruit and Nut Plants
Other ground covers	Woody Ornamentals and Vines
Other Maple	Deciduous Shade Trees
Other small fruit plants	Fruit and Nut Plants
Other vines	Woody Ornamentals and Vines
Pieris	Broadleaf Evergreens
Pine	Coniferous Evergreens
Pittosporum	Broadleaf Evergreens
Poplar	Deciduous Shade Trees
Privet	Broadleaf Evergreens
Red Maple	Deciduous Shade Trees
Redbud	Deciduous Flowering Trees
Rhododendron	Broadleaf Evergreens
Roses (shrubs)	Deciduous Shrubs
Spireas	Deciduous Shrubs
Spruce	Coniferous Evergreens
Strawberry plants (home use)	Fruit and Nut Plants
Succulents and Cacti, all	Cacti and Succulents

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Sugar Maple

Sweet gum

Viburnum

Viburnum

Vinca, ground cover

Weigelas

Willow

Yew

Deciduous Shade Trees

Deciduous Shade Trees

Broadleaf Evergreens

Deciduous Shrubs

Woody Ornamentals and Vines

Deciduous Shrubs

Deciduous Shade Trees

Coniferous Evergreens

4 Enumerator Procedures

4.1 Questionnaire Overview

The Census of Horticultural Specialties questionnaire is designed for collection of data by mail, CASI, phone, or CAPI. You may need to phrase some questions in your own words. All include and exclude instructions should be used when conducting the interview. When conducting telephone enumeration, it is advisable to refer to the copy of the questionnaire the respondent received in the mail, either to follow along, or to complete while referring to their records. When completing personal interviews, it might be worthwhile to have an extra, blank copy of the questionnaire available for the respondent to follow along.

The 2019 CHS covers all operations which produced and sold \$10,000 or more of horticultural crop sales or have the potential to produce and sell \$10,000 or more of the items of interest. Horticultural crops include bedding plants, potted flowering plants, cut flowers, cut cultivated florist greens, herbaceous perennials, foliage plants, trees, shrubs, ground covers, vines, fruit and nut trees, sod, dry bulbs, greenhouse produced vegetables, commercial vegetable transplants, vegetable and flower seeds, Christmas trees, short term woody crops, aquatic plants, unfinished or prefinished plants, propagation materials, and other nursery or greenhouse plants, excluding mushrooms and mushroom spawns.

This manual should be reviewed before beginning work on the survey and referred to as necessary during enumeration. The following are guidelines for completing and turning in your assignment.

4.2 Methods of Data Collection

All questionnaires will be mailed from and returned to the National Processing Center (NPC) in Jeffersonville, Indiana. Regional Field Offices have the option to withhold records from mailing from NPC and collect the data via field or phone enumeration. Modes of data collection and the survey plan are left to the discretion of the Regional Field Office staff. There are instances where a mode of data collection cannot be utilized due to constraints such as time, cost or response burden. All data collection plans provided by your office staff should be followed.

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4.2.1 Mailed Questionnaires

For operations not responding by mail, your Regional Field office will decide which to follow up by telephone and which to follow up by personal interview.

4.2.2 Telephone Enumeration

Regional Field Offices are encouraged to conduct the non-response follow-up for growers expected to have less than \$100,000 in sales by telephone. A CATI instrument will be available for non-response follow-up.

4.2.3 Personal Enumeration

Regional Field Offices are encouraged to conduct the non-response follow-up for growers expected to have \$100,000 or more in sales by personal interview because of their high relative importance to a States horticultural industry.

4.3 Enumerator Safety

All enumerators need to be alert when entering greenhouses or other production areas. Do not take a short cut through someone's greenhouse in order to get to the operator's office more quickly, without first looking around for safety concerns. The Environmental Protection Agency has strict guidelines that horticultural operations must follow to ensure the safety of their workers and customers. As enumerators it is part of your job to notice and obey any warnings posted on, or around greenhouses, and to follow any instructions on the warning signs. Signs should be posted on all greenhouse doors if pesticides are being sprayed or if they have been applied in the last few days. If you see workers in an enclosed area wearing protective equipment (breathing masks or protective suits) do not enter the area until the operator gives you an indication that it is all clear.

4.4 New Operations

Some new operations will be found during each year's list building process and data collection. A new horticultural operator found during the census of horticulture should be interviewed.

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New-add records are records that represent farms that were not included on the Hort. sample master, but are added to the Hort. survey after the survey process is under way.

At time of classify/sample-select, any farm included in the floriculture survey will also be included in the horticulture census. However, there will be many farms that qualify for the horticulture census that will not qualify for the floriculture survey. Under this set-up, it is possible that during the data collection period, some farms that originally were classified *only* for the horticulture census population could be considered for new-add status to the floriculture survey. It is also possible that a record that was classified *but not sampled* for the horticulture census be considered for new-add status to both the horticulture census and the floriculture survey- or to the horticulture census only. Another possible new-add candidate would be a record that *was not* classified for the horticulture census population but was identified during the survey process.

Any record with significant horticulture can be considered as a new-add, but any record being considered for new-add status whether or not was classified in the horticulture census population must have enough horticulture data to meet either that state's "horticulture must case" or "floriculture must case" criteria- or be producing some unique item.

Return these forms to the RFOs where they will be reviewed to see if it meets the new add criteria and if so, keyed via the Viking Entry layout provided to the States.

4.5 Refusals

When refusals occur during personal enumeration, observe as much as possible about the size of the operation, growing area (both covered and open ground), types of cover or structures, and the types of plants being produced. However, do not trespass or deceptively try to obtain data. The goal of observing is to assist the Statistician in determining the type of operation and to provide an idea of the level of sales. Indicate the reason the respondent refused and the information you were able to observe. If a clerk reports that they are not authorized to release the information, note this on the questionnaire. Also make a note if you think contact by the Regional Field Office would be helpful.

4.6 Mailing Completed Work

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Completed questionnaires should be forwarded to the Regional Field Office or your supervisor, according to your survey statistician's instructions. Mailings should be made at a central post office as soon as possible to ensure prompt delivery. If you doubt that the last completed work will reach the Regional Field Office by the final due date, call your supervisor for additional instructions.

4.7 Burden Statement

Federal regulations require that an estimate of the average time required to complete the questionnaire be included on the form. The burden statement regulation also provides the public with an opportunity to respond to the Office of Management and Budget (OMB) regarding any aspect of a survey. This regulation is administered by the OMB which has the duty of approving and overseeing government data collection efforts.

The average time requirement may represent the actual average completion time as recorded in previous years of the survey or it may represent what NASS and OMB consider to be an average completion time. If the respondent has problems with a questionnaire or with the time required to complete it, the issue may be conveyed to OMB at the address given in the burden statement. Since use of the burden statement is required by OMB regulations, any questions a respondent may have about the burden statement or the Paperwork Reduction Act (of which the burden statement is a part) should be addressed in writing to the OMB.

The burden statement will appear on all questionnaires. When each respondent is mailed the questionnaire, the enumerator collecting data does not need to present a copy of the burden statement at the time of the interview.

Respondents often ask, "How long will this take?" Enumerators should not directly contradict the average time in the burden statement. However, enumerators may provide additional information, such as, "The official average for this survey is 60 minutes, but the interviews I have been doing in this area are averaging around 45 minutes."

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5 Completing the Questionnaire

General

Include:

- Floriculture plants, nursery plants, broadleaf evergreens, coniferous evergreens, cultivated Christmas trees, turf grass sod, tobacco transplants, dry bulbs, greenhouse produced food crops, vegetable and flower seeds, commercial vegetable transplants, short term woody crops, and other plants grown and sold by the operation.
- All production grown under glass, fiberglass, plastics, cloth, other covers and outdoors.
- Plants for further growing on, unfinished plants, and plant propagative materials, such as cuttings, liners, plug seedling, tissue culture plantlets, and pre-finished plants sold to other operations.

Exclude:

All plants purchased from others but not finished (“grown-on”) before resale. There is a difference between “holding” and “growing-on.” Purchasing mature plants with the intent of immediately reselling is “holding.” Sales of these plants should be **excluded** from this report because the plants are not produced or grown by the operation. The firm must buy stock, finish and sell it before that stock should be included in the survey. Remember, if they didn't grow it, don't include it: wholesale or retail.

Retail versus Wholesale Sales

The quantity sold and value of sales is to be reported by type of market: retail or wholesale. It is quite common for a grower to sell the majority of production to other growers or dealers at wholesale and sell a smaller part of production at retail to the public. The retail price per unit is usually higher than the wholesale price for the same pot size and quality.

Retail sales generally account for 1-5 percent of most floriculture plants. However, rarer or more specialized crops, like orchids, may have a larger percent sold at the retail level.

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Area in Production

All Crops – The area used to produce each crop should be the total area, including walkways, aisles, etc. Since there are numerous walkways and aisles in most production areas and many different layouts exist, the only logical reporting method for consistency is to include the total area.

If a producer reports a crop failure, probe the respondent to determine if any portion of the crop was produced and sold. If the response is “yes” record data in the appropriate cell box. At a minimum, the area in production must be recorded.

Cut Flowers – If the same area was refilled to different crops during the year, report the square feet for each crop. If refilled with the same crop, report the square feet for all fillings.

The industry is interested in the total area in production, regardless of the crop grown. Some growers completely clear out a crop and replace it with the same crop or a different one.

Other growers continually sell and add part of the crop throughout the year. Although this is probably the most difficult item for the grower to report, it is possible for the producer to report the total square feet involved. Be sure all crop turns are recorded for each crop.

Potted Foliage Plants and Cut Cultivated Greens – If the same area was refilled with foliage or cut cultivated greens during the year, report the area only once. If refilled to crops other than foliage or cut cultivate greens, report the area for each crop.

When producers replace a crop with the same crop, they will often sell a few plants and only replace those plants sold. This is common for potted foliage plants and cut cultivated greens. Since the producer usually does not clear out the entire area, it is not practical to expect the producer to report the total square footage involved. This is the reason for reporting the area only once if it is refilled with potted foliage plants and cut cultivated greens. Also, foliage plants may be grown for several years before they are sold, and frequently do not have an exact finish time because there are no blooms to fade, flowers to harvest, or seasonality of the crop.

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Flats

Although the “standard” flat is a very common sales unit for marketing bedding plants, it is far from universal. In the past few years, growers throughout the country are switching to a new “slimline” flat which is 8 ¼ inches wide by 20 or 21 inches long. These flats take about 15 percent less bench space. If a flat size other than the 10 x 20 to 11 x 22 inch size is used, be sure the non-standard dimensions are entered in the space provided. This could be useful to know during editing in the office.

Most producers sell bedding plants in packs. There are 2, 3, 4, 6, 8, 10, 12, 18 or 36 packs to a flat. Flats of packs are fractionally smaller than the 11 x 22 inch flat, but can be considered that size. Be sure the grower does not report packs as flats.

Pots produced in shuttle trays, carrier flats or flats of individual pots should be recorded as pots. Peat pots should also be recorded as pots.

5.1 Face Page

1. For 2019, select all crops listed below that this operation grew, finished, or sold.

This item is intended to assist the respondent in identifying all the crops included in the census of horticulture. Growers of some horticultural specialties, such as vegetable seeds and propagative materials do not realize that the crops or products they grow or produce are included.

Exclude: Any operation that is not involved in the production of greenhouse or outdoor grown horticultural crops and all handlers that are involved after the plants are finished. Also exclude plants purchased from others but not finished (grown on) before resale.

2. In 2019, did this operation sell \$10,000 or more of these horticultural crops?

This screening question determines if an operation that grows and/or finishes horticultural products meets the minimum requirements for inclusion in the 2019 Census of Horticultural Specialties. All growers that produced and sold over \$10,000, including both wholesale and retail sales, are to complete the survey. Do not include sales of non-plant materials (pots, tools, chemicals, and other garden supplies) when calculating sales volume. If an operation does not meet the criteria, skip to Section 22.

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5.2 Section 1: Cut Flowers

This section is to be completed by operations that produced cut flowers and had total sales of all horticultural crops of \$10,000 or more during 2019.

Include:

- Fresh flowers grown, but used as dried flowers such as straw flowers and some of statice, gypsophila, etc.

Exclude:

- Potted flowering plants for indoor or patio use. Report in Section 2.
- Dried bulbs, rhizomes, corms, or tubers to be used for forcing or outdoor use. Report in Section 15.
- Unfinished plants (plug seedlings, cuttings, liners, tissue cultured plantlets, etc.) Report in Section 16.

Note the different units required by flower type: The following units are commonly used to report sales. If any other unit is reported, probing will be needed to gather enough information to convert to the standard unit required on the questionnaire. Make notes on the form to explain the conversions.

Flower Type	Units
Carnation, standard	Stems
Gladioli	Spikes
Heather	Bunches
Orchid, Cattleya	Blooms

5.3 Section 2: Potted Flowering Plants for Indoor or Patio Use

This section is to be completed by operations that produced potted flowering plants for indoor or patio use, and had total sales of all floriculture crops of \$10,000 or more during 2019.

Important: The key is “for indoor or patio use.”

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Include:

- Potted flowering plants grown for indoor or patio use only.

Exclude:

- Plants with buds not yet showing color.
- Potted flowering plants intended for landscape use.
- Finished plants purchased from others and resold without “growing on.”
- Sales as bulbs.
- Hardy/garden chrysanthemums to be reported in Section 3.
- Bedding plants, geraniums, potted blooming annuals, and flowering hanging baskets to be reported in Section 4.
- Propagative floriculture material to be reported in Section 16 (plug seedlings, cuttings, liners, tissue cultured plantlets, etc.).

Some hardy versions of the plants in this section can be grown for use in landscaping, but only include production of these plants that are finished and sold for indoor or patio use. For example, there are many different stages of azalea production and the goal of this survey is to isolate only those intended for indoor or patio use. Azaleas reported in this section should include those identified as “finished florist azaleas, showing color.” This is also true for plants included in the “all other” category such as hibiscus and hydrangea.

5.4 Section 3: Potted Herbaceous Perennials

This section is to be completed by operations that produced potted herbaceous perennials and had total sales of all floriculture crops of \$10,000 or more during 2019.

Include:

- Field and container grown plants (hardy/garden chrysanthemums, hostas, and other **potted** herbaceous perennials).
- Non-woody plants that live three years or more under local conditions.
- Bulbs that are sold in pots for outdoor landscaping

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Exclude:

- Cuttings, liners, plug seedlings, bare root **herbaceous** perennials, pre-finished plants, tissue cultured plantlets and other unfinished propagative plants to be reported in Section 16.
- Ornamental grasses. Report these in Section 9.

Herbaceous perennials are plants that have little or no woody stem and whose life span is more than two years such as hardy/garden chrysanthemums or hostas. The above-ground parts of these plants generally are killed to the ground by frost in the late fall, but the roots live through the winter. In the spring, growth is renewed and the cycle begins anew.

Record the number of pots sold by size group. Pot sizes for herbaceous perennials are less than 1 gallon, 1 gallon up to 2 gallons, or 2 gallons or larger. Pot sizes for chrysanthemums are classified as less than 5 inches or 5 inches or more.

5.5 Section 4: Annual Bedding/Garden Plants

This section is to be completed by operations that produced annual bedding/garden plants and had total sales of \$10,000 or more during 2019.

Include:

- All flats, baskets and pots of annual bedding/garden plants finished and sold.
- Vegetable, strawberry, melon and herb bedding plants sold for home use.
- Flats using a common insert.
- Pots produced as separate units, and pots which are produced in shuttle trays, carrier flats, or flats of individual pots.
- Pots of annuals and mixed annuals including color bowls, strawberry jars, combination planters, etc.

Exclude:

- Finished bedding/gardening plants purchased from others and resold without further growing on.

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- Vegetable, strawberry, melon, and herb transplants for **commercial production**.
- Cut herb production intended for consumption.
- Ground covers which are nursery/landscaping plants.
- Potted florist chrysanthemums to be reported in Section 3.
- Foliage plants to be reported in Section 5.
- Plugs and propagative floriculture material to be reported in Section 16.
- Pre-finished plants sold to others for finishing to be reported in Section 16.

Production of potted geraniums is separated into two groups, those grown from vegetative cuttings and those grown from seeds or plug seedlings. Be sure the grower is NOT reporting plug or liner production in this section.

Production of potted Impatiens is also separated into three categories: interspecific hybrids, New Guinea, and other (including *I. walleriana*). Be sure to emphasize this difference.

Baskets of mixed flowers and vegetables are to be recorded under "Combination planter/color bowl."

Asparagus and rhubarb sold bare root for home use should be coded as "Other vegetable type bedding plants."

For annual bedding/garden plants not listed on the questionnaire, code as "Other flowering and foliar annuals."

5.5.1 Flat Sizes and Flat Usage

When recording the number of flats for the crops specified, the flats reported for each crop should be consistent with the standard size flat (11" x 22" or 242 square inches). The standard size is considered to cover flat sizes from 10" x 20" to 11" x 22".

Although the "standard" flat is a common sales unit for marketing bedding plants, it is far from universal. Many growers are switching to a new "slim-line" flat which is 8 1/4 inches wide by 20 or 21 inches long. These flats take about 15 percent less bench space.

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If a flat size other than the 10" x 20" to 11" x 22" size is used, **be sure the non-standard dimensions are entered in the space provided (cells 0880 and 0881)**. All flats reported in the table will be adjusted to that average size. Report flat sizes to two decimal places in both cells (___ . ___).

Most producers sell bedding plants in packs or inserts. There can be 2, 3, 4, 6, 8, 10, 12, 18, or 36 inserts to a flat. These are denoted as 606's, 1204's, 1206's 1801's, 1803's, etc. Flats of packs are fractionally smaller than 11" x 22" flat, but can be considered that size.

If the operator uses several different sizes of flats (depending on the type of plant being produced), you will need to make a note for each type of plant along with the number sold, so that the office staff can adjust all entries to the standard size.

Pots produced in shuttle trays, carrier flats or flats of individual pots should be recorded as pots. Peat pots should also be recorded as pots. A common recording problem is to record a shuttle tray of 6 to 8 pots as a flat. These are correctly recorded as a number of pots. When an operation used standard trays, you can note the number of flats and the number of pots per flat in the margin.

5.5.2 Mixed Plantings

This is a relatively new trend in Floriculture where mixed varieties of flowers are arranged in bowls, baskets, or pots, and even oval or oblong containers. Containers of annuals and mixed annuals, such as color bowls, strawberry jars, or combination planters should be reported as **pots**. These types of mixed arrangements should be recorded in All Other Flowering and Foliar Plants. **Note:** Mixed flower hanging baskets should be reported in the Hanging Basket category.

5.6 Section 5: Foliage Plants for Indoor or Patio Use

This section is to be completed by operations that produced foliage plants for indoor or patio use (pots and baskets) and had total sales of all floriculture crops of \$10,000 or more during 2019. The **key phrase** for this section is "for indoor or patio use."

Include:

- Only those plants FINISHED for indoor or patio use and not intended for landscape use.

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- Plants that have flowers which are secondary compared with their foliage features.
- Ivy, cacti, ferns, palms, and succulents, etc. FINISHED by the operation.
- Indoor/patio shrubs, trees, and vines FINISHED by the operation.

Exclude:

- Foliage plants purchased from others, but grown by the operator for less than four weeks.
- Foliage plants, including palms that are grown for outdoor landscaping.
- Hardy garden ferns to be reported in Section 3.

This section covers a wide variety of plants. Some are trees, vines, canes, cacti and other succulents, ferns, and palms that are grown for their foliage. Some foliage plants bloom, but this is secondary to their greenery. Pot sizes range from 2 inches to large tub sizes. Some production is used to beautify malls and other commercial buildings that require large plants. These are to be included if for indoor use. Notes in the margin about the intended use of the plants will help statisticians validate that production should be included in this section.

For foliage plants not listed on the questionnaire, code as “Other foliage plants.”

5.7 Section 6: Cut Cultivated Greens

This section is to be completed by operations that produced cut cultivated greens and had total sales of all floriculture crops of \$10,000 or more during 2019.

Include:

- Cut cultivated florist greens grown and sold for export and domestic markets.
The export market accounts for a large portion of the utilization of the crop, so be sure to include these in the reported figures.

Exclude:

- Greens harvested from the wild.

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Cut cultivated greens are those plants used for floral arrangements and other ornamental purposes. This category does not include edible greens for food uses.

Leatherleaf ferns in hanging baskets are reported in Section 5.

5.8 **Section 7: Food Crops Grown Under Protection**

This section is to be completed by operations that produced food crops grown under glass or other protection and had sales of all horticulture crops of \$10,000 or more during 2019.

Include:

- Food crops, such as vegetables and berries, produced under glass or other protection.
- Hydroponically grown food crops.
- Bean and alfalfa sprouts.

Exclude:

- Potted herbs. Report in Section 4.
- Vegetable and bedding plants for home use. Report in Section 4.
- Strawberry bedding plants for home use. Report in Section 9.

Bean and alfalfa sprouts and other sprouts should be coded as “Other greenhouse produced food crops.”

5.9 **Section 8: Cultivated Christmas Trees**

This section is to be completed by operations that produced Christmas trees and had sales of \$10,000 or more of all horticultural crops during 2019.

Include:

- All Christmas tree production.
- Christmas trees, such as Douglas fir, Fraser fir, Noble fir, and Scotch pine.

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Exclude:

- Balled and burlapped Christmas trees and container Christmas trees. Report in Section 9.
- Cut evergreens for greens. Report in Section 8.

Norway spruce, Virginia pine, etc. should be coded as “Other” Christmas trees.

Trees on operation on January 1, 2020, refers to un-cut Christmas trees. Acres in Production refers to acres of standing, un-cut Christmas trees.

5.10 Section 9: Nursery Stock Production and Sales

This section is to be completed by operations that produced any nursery plants, including deciduous shade and flowering trees, evergreen, shrubs, bushes, fruit and nut trees grapevines, small fruit plants, ground covers and vines and had total sales of all floriculture crops of \$10,000 or more during 2019.

Include:

- Plants that were field grown (bare root, balled and burlapped, etc), container grown, and other, such as greenhouse.
- Broadleaf and coniferous evergreens, deciduous shrubs, ground covers, vines, and fruit and nut plants.

Exclude:

- Liners (lining out stock), young plants such as plug seedlings, and tissue culture plantlets, and propagation materials such as cuttings. Report in Section 16.
- Cultivated Christmas trees. Report in Section 8.
- Herbaceous perennial plants. Report in Section 3.
- Dried bulbs, rhizomes, corms, or tubers to be used for fencing or outdoor use. Report in Section 15.
- Liners (lining out stock), young plants, such as plug seedling and tissue cultures plantlets, and propagation materials such as cuttings. Report in Section 16.

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For those plants not listed on the questionnaire, code as "Other" in the appropriate category.

5.11 Section 9: Nursery Stock Production and Sales – Sales Categories

For the nursery stock items listed, report the percentage of sales (retail and wholesale) in 2019 for the following categories: bareroot, balled and burlapped, containers, and other. The summation across these categories for a nursery stock item should equal 100%.

5.12 Section 10: Sod, Sprigs or Plugs

This section is to be completed by operations that produced turfgrass, sod, sprigs, or plugs and had sales of all horticulture crops of \$10,000 or more during 2019.

Report total acres in production, total acres harvested, and value of sales of turfgrass, sod, sprigs and plugs from this operation in 2019.

Acres planted to grass intended for sale as sod in subsequent years and not harvested in 2019 should be included in total area in production in 2019.

5.13 Section 11: Short Rotation Woody Crops

This section is to be completed by operations that produced short rotation woody crops and had sales of \$10,000 or more of all horticultural crops during 2019.

Short rotation woody crops are quick growing trees such as hybrid poplar or cottonwood that are grown for less than 10 years for pulpwood, sawlogs, etc. The production of these trees involves more than simply planting tree seedlings. Operations that provide inputs and resources such as fertilization, thinning, watering, and spraying should be included. Operations planting seedling for pulpwood with limited or no intervention by external resources are considered forestry operations and not horticulture operations. Report area in tenths of acres; enter quantity harvested in green tons.

5.14 Section 12: Aquatic Plants

This section is to be completed by operations that produced aquatic plants and had sales of \$10,000 or more of all horticultural crops during 2019.

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Include:

- **Underwater Plants:** Plants whose leaves are at least practically submerged in the water. They release oxygen into the water enabling it to support life.
- **Floating Leaf Plants:** Plants with foliage floating on the water surface are essential to maintain clear water. By blocking a portion of sunlight, they check the growth of algae.
- **Floating Plants:** Plants that float freely on the water, but have well developed roots.

5.15 Section 13: Vegetable Seeds

This section is to be completed by operations that produced vegetable seeds and had sales of all horticulture crops of \$10,000 or more during 2019.

Include:

- Vegetable and melon seeds.

Exclude:

- Potatoes for seed, sweet corn for seed.

5.16 Section 14: Flower Seeds

This section is to be completed by operations that produced flower seeds and had sales of \$10,000 or more of all horticultural crops during 2019.

Include:

- Flower seeds, such as Sweet Alyssum, Marigold, Sweet pea, and Wildflowers.

Exclude:

- Flower seeds gathered from the wild.

Report the area in acres and in tenths of acres. Report production in pounds of clean seed.

Seeds for Aster, Petunia, Snapdragon, Stock, Zinnia, etc. should be coded as "Other flower seeds."

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5.17 **Section 15: Dry Bulbs, Corms, Rhizomes or Tubers**

This section is to be completed by operations that produced dry bulbs, corms, rhizomes or tubers and had sales of all horticulture crops of \$10,000 or more during 2019.

Include:

- Bulbs harvested even though they have been previously harvested for cut flowers.

Exclude:

- Bulbs harvested for cut flower production **only**.
- Bulbs sold in pots.

5.18 **Section 16: Propagative Horticultural Material, Bareroot and Unfinished Plants**

This section is to be completed by operations that produced propagative floriculture material, or bareroot or unfinished plants and had total sales of all floriculture crops of \$10,000 or more during 2019.

Include:

- Bareroot perennials, cuttings, liners, plug seedlings, pre-finished plants or tissue cultured plantlets.
- Plants and other unfinished floriculture material sold to other growers for FURTHER GROWING-ON.

Exclude:

- Seeds, bulbs, corms, rhizomes, or tubers.
- Any other material sold as bare or dormant roots.
- FINISHED plants sold to others.
- Plants or materials for the growers own use.

Plants for further growing on (unfinished plants) or propagation materials are grown or produced by specialty growers who sell them to other growers. These growers will either finish the plant and sell it to the final consumer or grow it to another stage of production before selling it to another grower for further growing.

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The value of sales of propagative material has greatly increased in recent years. Many producers can get more crop turns and higher value of sales from a greenhouse by buying plugs rather than growing from seed. At the same time, the demand for plugs and other propagative material has spurred production and sales in that segment of the horticulture industry.

Example:

Grower A produces a plug or cutting in a 2 inch pot, then sells it to Grower B. Grower B “grows it on” into a 4 inch pot and sells it to Grower C who “grows it on” to retail size and sells the finished plant. Both Grower A and B should report propagative material sold only in Section 16. Grower C should report as finished production in the appropriate section of the questionnaire not in Section 16.

5.18.1 Cuttings or Liners

Include:

- Bareroot herbaceous perennial transplants. Code as liners.
- Tree seedlings. Code as liners.

Bedding and flowering plants, foliage plants and nursery plants are listed separately under the liner category. Code bareroot herbaceous perennial transplants and tree seedlings as liners. Although bareroot transplants are not truly liners, we will consider them liners for this census.

5.18.2 Other Plants for Further Growing on Such as Cuttings, Plug Seedlings Tissue Cultured Plantlets (Micro Propagated Plants), and Prefinished Plants

Plug seedlings are grown from seeds sown mechanically into a plug tray.

Prefinished plants are plants grown too near marketable stage and sold to others for further growing on. Only include potted flowering plants and foliage plants for indoor or patio use.

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5.19 **Section 17: Transplants for Commercial Vegetable and Strawberry Production**

This section is to be completed by operations that produced transplants for commercial vegetable and strawberry production and had sales of all horticulture crops of \$10,000 or more during 2019.

Include:

- Transplants for commercial vegetable, melon, and strawberry production.

Exclude:

- Vegetable and melon bedding plants for home use. Report in Section 4.
- Strawberry bedding plants for home use. Report in Section 9.

If the same square feet were used for different crops during the year, report the square feet for each crop. If refilled with the same crop, report the square feet for all fillings.

5.20 **Section 18: Tobacco Transplants**

This section is to be completed by operations that produced tobacco transplants and had sales of \$10,000 or more of all horticultural crops during 2019.

Include:

- Tobacco transplants grown **for sale** in greenhouses, seed beds, or cold frames.

Exclude:

- Tobacco transplants for the farmers (growers) own use.

Tobacco transplants are not usually considered horticultural crops. They are included here since many growers are using greenhouses to grow their tobacco transplants.

5.21 **Section 19: Marketing Channels**

Enter the whole percent of horticultural crops sold to the listed marketing channels. Do not include plants for further growing on such as liners, lining out stock, plug seedlings, tissue cultured plantlets or pre-finished plants or propagation materials such as cuttings. The percentages should sum to one hundred percent.

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5.22 **Section 20: Estimated Value of Land, Buildings, Machinery and Equipment**

This section is for reporting the estimated current market value of land, buildings, machinery and equipment used for the horticultural operation.

Include:

- Market value of land owned or rented from others from which horticultural crops were grown or harvested.
- Market value of buildings used for the horticultural operation such as greenhouse(s), sheds dwellings used for laborers, etc.
- Estimated market value of all machinery and equipment used for the horticultural operation, such as cars, trucks, tractors, irrigation equipment, soil mixers, seeders, sprayers, tree spades, etc.

This should be an estimate of what the equipment and machinery would sell for in the present condition, and not the replacement value.

5.23 **Section 21: Horticultural Production Expenses**

Report the production expenses paid for this operation in 2019. Record estimates if exact figures are not known. Exclude expenses from any separate operations.

Item a - Seeds, plants, vines, trees, etc., purchased - Report the cost of seeds purchased for the horticultural operation. Report the cost of transplants, bulbs, propagation material, trees, etc. Estimate the values if necessary. Exclude items purchased for immediate resale or the value of seed grown and used on this operation.

Item b - Potting soil and growing media - Report the cost of purchased potting soil and other material used to grow horticultural crops. Include the cost of inert support materials for hydroponic systems.

Item c - Fertilizer, lime, and soil conditioners purchased - Report the cost of all fertilizer used on this operation in 2019. Report all types of fertilizer including rock phosphate, gypsum, lime, manure purchased, and other organic materials. Include the cost of any custom applications.

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Item d - Chemicals purchased - Report the cost of insecticides, herbicides, fungicides, other pesticides, etc. Include the cost of any custom applications.

Item e - Containers - Report the cost of containers purchased in 2019 by the type of material used to construct the containers. Materials include, plastic, Styrofoam, naturally based containers, clay pots, glazed pottery and other.

Item f - Hired labor - Report labor expenses for workers who worked less than 150 days in 2019 and labor expenses for workers who worked 150 days or more days during 2019. Exclude retail. Include the total amount paid for labor including amount paid to regular workers, part-time workers, and members of the operator's family if they received payments for labor.

Include costs for social security, workmen's compensation, insurance premiums, pension plans, state taxes (paid by the employer), unemployment tax, sick leave or vacation pay, etc., paid by this operation in 2019. Combine all payments whether made by the hour, month, or by the unit of work done and enter the total for workers who worked less than 150 days and for workers who worked 150 days or more.

Item g - Contract labor - Report the payments to contractors, crew leaders, or any organization hired to furnish a crew of laborers to do a job that may involve one or more agricultural operations. In some cases, a crew leader may furnish some equipment.

Exclude expenditures made on a contractual basis for repair or maintenance or for capital improvements, such as construction of farm buildings, installation of fences or irrigation systems, land leveling, etc.

Item h - Gasoline, fuels, and oils purchased for the farm business - Report the total cost for gasoline, diesel, natural gas, L.P. gas, motor oil, and grease products for this operation during 2019. Exclude fuel for personal non-farm use of automobiles by the family, cooking and heating the farm house, and any other fuel expenses not related to this operation.

Item i - Utilities purchased for the farm business - Report the cost of electricity, the operation's share of telephone and water purchased in 2019. Include the cost of water purchased for irrigation purposes. Include utility cost for operating irrigation equipment, or any other machinery and equipment used for the operation. Internet service which is purchased for the horticultural business should be reported here. Expenses for household use should, to the extent possible, be excluded.

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Item j - Repairs, supplies, and maintenance costs for the horticultural business -

Report all expenses for the upkeep of buildings, motor vehicles, and equipment. Include the cost of repairs and upkeep of machinery, vehicles, buildings, fences, and other equipment used for the business.

Exclude the cost for construction of new buildings or the cost of additions to existing buildings.

Item k - Rent and lease expenses for land, buildings, machinery, etc. - Report the rent and lease expenses for machinery, equipment, and vehicles used for this operation during 2019.

Item l - Interest paid on debt related to the horticultural operation - Report all interest expenses paid in 2019 on debt secured by this operation's real estate or non-real estate (machinery, tractors, trucks, other equipment), for the horticultural operation. Include finance charges paid on loans.

Exclude:

- Interest on debts not associated with the horticultural operation.
- Interest on owner/operator dwelling where the dwelling is not considered part of the horticulture operation.

Item m - Property taxes paid in 2019 - Report property taxes, etc., paid on the real estate, buildings, and livestock on this operation in 2019. Include property taxes paid by this operation's landlord(s).

Exclude:

- Property taxes paid on other land not associated with this operation, non-farm business property, and homes that were not part of this operation.
- Income and excise taxes.

Item n - Marketing expenses - Report all costs associated with marketing and advertising products for the horticultural operation in 2019.

Item o - Packaging expenses - Report all costs associated with packaging for preparation of plants for sale on the horticultural operation in 2019.

Exclude:

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- Exclude packaging used only in retail operations.

Item p - Other production expenses – Report expenses for custom work, storage, and miscellaneous supplies, insurance, beneficial insects, other organic materials for weed or pest control, bookkeeping charges, tax preparation fees, and production costs not previously reported in this section.

Item 2, record the total value of merchandise which was returned in 2019 and the value of any discounts on the sale of products.

5.24 **Section 22: Total Area**

Item 1 - Greenhouses - Total land area covered by greenhouses. The entry to this item must represent all land area covered. Include area covered by glass, rigid plastic, and plastic film. Report area only once even though the same area was refilled to different crops during the year.

The roof covering (glazing) determines the greenhouse classification. Example 1: a structure with a glass roof, but insulated fiberglass sides is considered a glass greenhouse. Example 2: a structure has an acrylic plastic roof with film plastic sides that can be rolled up in warmer weather should be considered a rigid plastic greenhouse.

Greenhouse and shade structures can be modified with different materials during the course of the production year. If a structure was modified (the roof and or sides of the structure were opened up or removed), record the area of production in the category (greenhouse, shade structure, etc.) that produced the largest value of sales in 2019.

Report greenhouse area erected during 2019.

Exclude area with temporary cover for winter protection.

Items 2-4 – Shade Structures, Natural Shade Area and Area in the Open -

The purpose is to find out how much area in greenhouses, shade structures, natural shade areas, and open fields was used at any time during the year to produce and finish the floriculture crops.

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If the same area was used to grow different crops, report the area for each crop. For example, if two crops of annual bedding/garden plants were harvested from 1,000 square feet, enter 1,000 square feet in the “annual bedding/garden plants” category. If 500 square feet of potted flowering plants were also grown in the same area, report 500 square feet in the “potted flowering plants” category and 1,000 square feet in the “annual bedding/garden plants” category.

Include:

- Area for production of cut flowers, flowering and foliage plants, annual bedding/garden plants, herbaceous perennials, cut cultivated florist greens, and propagative floriculture material.
- Aisles, walkways, and other production areas. This is necessary because it is not practical for growers to report any other way.

Exclude:

- Non-floricultural production areas such as:
 - Roads;
 - Parking areas;
 - Area used exclusively to produce commercial vegetables or strawberries;
 - Area used for displays and retail sales;
 - Non-floriculture production areas in nurseries.
- Temporary cover for winter protection.

Open ground can be entered in square feet **or** to the nearest tenth acre.

5.25 Section 23: Area Used for Horticultural Production

Item 1 – Production Area by Plant Type – For the type of plants listed, record the area used to produce them. The types of production areas include greenhouse space (square feet), shade structures (square feet), natural shade area (acres) and area in the open (acres).

Report the area for each type of plant listed. For example, if two crops of annual bedding/garden plants were harvested from 1,000 square feet, report 1,000 square feet in the “annual bedding/garden plants” category. If 500 square feet of potted flowering

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plants were also grown in the same area, report 500 square feet in the “potted flowering plants” category and 1,000 square feet in the “annual bedding/garden plants” category.

5.26 **Section 24: Greenhouse, Nursery, and Other Horticultural Labor**

In **Item 1**, record the number of employees which worked less than 150 days and the number of employees which worked 150 days or less on the horticulture operation in 2019.

Include:

- Full-time, part-time workers, hired managers, and PAID family members.

Exclude:

- Employees not directly involved in the growing operation, such as retail garden center clerks, landscaper installers, and truck drivers.
- Those hired exclusively to produce nursery products (trees and shrubs) on another part of the operation.

5.27 **Section 25: Type of Horticultural Operation**

In **Item 1**, record the type of ownership. This question identifies the type of operation or proprietorship that best describes how this operation was operated in 2019. Mark the type of operation that best describes this operation.

Family or individual operation - Exclude partnerships and corporations - Mark this box if this operation was operated by an individual, or an individual and family, or by a husband and wife. Include farms or ranches that were family operations but were not incorporated or operated as partnerships.

Partnership operation (include family partnerships) - Mark this box if this operation was run by two or more persons in partnership. Do not include operations run by husbands and wives (unless there was a formal agreement other than marriage license or vows). It is intended to include organizations where two or more persons have agreed to share contributions (capital and effort), decision making, liabilities, and the distribution of profits.

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Corporation - Mark this box if incorporated under state law. A corporation may be defined as a legal entity or artificial person created under the law of a state to carry on a business.

Other – If the operation did not fall into the provided categories, mark (X) in this box and describe the type of ownership that this operation existed under during 2019.

5.28 **Section 26: Total Value of Horticultural Sales**

In **Item 1**, select the range of values which represent the gross value of sales (before deducing taxes and expenses) during 2019, regardless of the year in which the products were harvested. This range should also represent the value of crops sold in 2019 even though full payment may not have been received in 2019.

In **Item 2**, select yes, don't know, or no if the operation expects to sell \$10,000 or more of any horticultural crops in the future.

5.29 **Section 27: Change in Operator**

Complete this section only if Question 1 on the face page is answered "No," meaning there was no horticulture production on the operation during 2019. This census is a complete accounting of horticultural operations with value of sales of at least \$10,000 in 2019.

If an operation was in business part of 2019 and then was sold to someone else, you will need to complete a questionnaire for each operator (previous owner and current owner) if they had sales of at least \$10,000 for the part of the year that they each operated the business.

5.30 **Section 28: Additional Operations**

Item 1: Additional Operations in this State

The YES or NO box must be checked. This will allow the office staff to correctly account for the information or avoid duplicating reports. If YES, list any other floriculture farms or greenhouses which are operated in your State by this operation.

Item 2: Additional Operations in any other State(s)

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Again the YES or NO box must be checked to enable the office staff to correctly account for the information or avoid duplicating reports. If YES, list other floriculture farms or greenhouses which are operated in the other State(s).

5.31 **Section 29: Conclusion**

For **Item 1**, enter the email address of the respondent if they would like the summary emailed to them at a later time. Next, print the name and telephone number of the person completing this questionnaire, (cell 9912 and 9911).

5.32 **Administrative Data**

5.32.1 **Completion Date – Cell 9910**

Enter the 2 digit month, day, and year, the questionnaire was completed.

(MM DD YY)

5.32.2 **Response Code – Cell 9901**

This answers the questions: Was the form completed? Or, why was it estimated?

Valid Enumerator use codes are:

- 1 – Complete
- 2 – Refusal
- 3 – Inaccessible
- 5 – Refusal Estimated
- 6 – Inaccessible Estimated

They appear on the Questionnaire as:

- 1 – Comp
- 2 – R
- 3 – Inac
- 5 – R – Est
- 6 – Inac - Est

All other response codes are normally reserved for Office Use on the Census of Horticulture. Check with your Regional Field Office for more information.

5.32.3 **Respondent Code – Cell 9902**

This answers the question: Who responded?

The codes are:

- 1 – Operator/manager

They appear on the Questionnaire as:

- 1 – Op/Mgr

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2 – Spouse	2 – Sp
3 – Accountant/Bookkeeper	3 – Acct/Bkpr
4 – Partner	4 – Partner
9 – Other	9 – Other

5.32.4 Mode Code – Cell 9903

This answers the question: How did they respond?

Valid codes for Enumerator to use are:

- 1 - PASI (Mail)
- 2 – PATI (Telephone)
- 3 – PAPI (Face-to-Face)
- 4 – CATI
- 5 – Web
- 6 – Email
- 7 – FAX
- 8 - CAPI
- 19 - Other

5.32.5 Enumerator Number – 9998

Enter your Enumerator Identification Number in cell 9998.

5.32.6 Evaluation Code – 9900 (Office Use)

The Regional Field Office will assign each survey completed an evaluation code of 1 – 5 based on criteria defined in each office.

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NOTES:

6 Marketing Container Exhibits

6.1 Containers for Propagative Materials

1.



2.



3.



4.



Items 1 - 4 are examples of trays used to grow cuttings, plug seedlings or unfinished plants.

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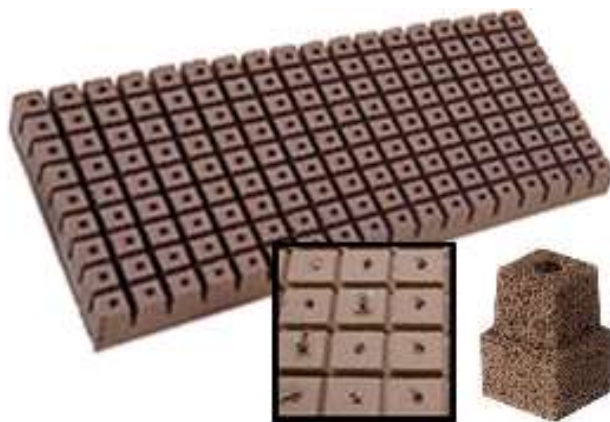
5.



6.



7.



Item 5 is an open flat that is used to germinate liners. Some seeds that are very small or have a low germination rate will be planted in a flat like this. There could be a few thousand seeds sprinkled over the surface of the soil. After germination, the seedlings are transplanted into cell packs. Cell pack trays are made of molded plastic and are filled with a growing medium such as peat moss, vermiculite, or other sterile growing medium. **Items 6** and **7** are also used for growing propagative materials, but they are made from compressed peat moss. Seeds or cuttings are placed directly into these and then watered. Once roots begin to emerge, the plants will be separated and placed into larger pots for growing on.

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6.2 Cell Packs vs. Pots

1.



2.



Item 1 is a cell pack - a container used to grow several plants that can be sold to retail customers. A cell pack cannot be separated and sold as individual plants. The pots in **Item 2** are sold separately. Smaller pots generally contain an individual plant, while larger pots may contain more than one plant, but the important thing to remember is that the pot is the unit used for quantity and price reporting.

6.2.1 Cell Packs

1.



2.



3.



4.



5.



6.



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7.



The seven items above show some of the various types of cell packs that are currently on the market. Cell packs can have only a few cells up to a dozen or more. **Item 6** is an example of a cell pack molded out of peat moss and is totally biodegradable. The other packs are all made of plastic. **Item 7** is an example of one of the larger cell packs available, some growers will refer to these larger packs as being either half flats or third flats, depending on the number of cells they contain.

6.2.2 Pots

1.



2.



Pots can come in several different materials. **Item 1** is made of compressed peat moss and **Item 2** is molded plastic. Some operations will use terra cotta or clay pots and some will sell wood planters filled with an assortment of plants. The type of material used in the pots is not important for this survey, only the size of the pot matters. Pot prices will vary somewhat by type of pot will, however.

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6.3 Pot Carriers vs. Flats

1.



2.



3.



4.



5.



6.



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7.



8.



Items 1 - 6 are examples of pot carriers. Plants can be sold as individual plants or you can buy an entire tray of them. However, the tray is there as a convenience to both the grower and the consumer. The consumer is free to mix and match plants and colors as much as they want, because the prices are set for each individual pot. **Items 7 and 8** are examples of flats. Flats are also trays, but they are designed to hold cell packs of plants. Cell packs generally contain smaller plants than what you find in individual pots. The cell packs cannot be separated and sold as individual plants.

Item 1 above can also be used as a very large cell pack, if the plants are placed directly into it without using pot inserts. When this happens, record the plants as six individual pots because they will contain larger, mature plants and the price will reflect that. Do not record them as cell packs, the price will be too high compared to other cell pack plants.

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6.4 Flat Sizes

The standard flat size is 242 square inches or 11" x 22". However, any flat that falls in the range of 10" x 20" to 11" x 22" is considered to be a standard flat. When an operation uses a flat that falls outside this range, record the dimensions in Section 4, Question 2 (cells 0880 and 0881). In recent years, there has been an increase in the types of flats on the market. Some growers now use a streamline or skinny flat that is still 20" to 22" long, but it is only 8.5" wide. In some parts of the country, half flats that are 12" x 12" or 5.5" x 21" are commonly used. In the western States, a common flat size is 17" x 17".

1.



Item 1 shows several different trays that are 12" x 12", but are used for raising plugs and other propagative materials.

This increase in variety of flat sizes has allowed retailers to display more varieties of plants and colors in the same amount of shelf space thus giving customers greater selection while allowing the retailers to better utilize their display areas. It is very important that the correct size of flat is reported in the questionnaire because the edit and summary convert all sizes and prices for Annual Bedding/Garden Plants using the dimensions reported in cells 0880 and 0881.

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6.5 Hanging Baskets

1.



Hanging baskets come in numerous sizes and shapes and can vary greatly in price per unit. Some growers may sell baskets in the 6" to 10" range while others may specialize in the 24" to 36" baskets that are primarily sold to hotels, shopping malls, and other commercial customers. If you come across a grower that has unusual prices or sizes, make good notes on the questionnaire, before returning it to your Regional Field Office.

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Appendix A – State Abbreviations

State	Abbreviation	FIPS Code	State	Abbreviation	FIPS Code
Alabama	AL	01	Nebraska	NE	31
Alaska	AK	02	Nevada	NV	32
Arizona	AZ	04	New Hampshire	NH	33
Arkansas	AR	05	New Jersey	NJ	34
California	CA	06	New Mexico	NM	35
Colorado	CO	08	New York	NY	36
Connecticut	CT	09	North Carolina	NC	37
Delaware	DE	10	North Dakota	ND	38
Florida	FL	12	Ohio	OH	39
Georgia	GA	13	Oklahoma	OK	40
Hawaii	HI	15	Oregon	OR	41
Idaho	ID	16	Pennsylvania	PA	42
Illinois	IL	17	Rhode Island	RI	44
Indiana	IN	18	South Carolina	SC	45
Iowa	IA	19	South Dakota	SD	46
Kansas	KS	20	Tennessee	TN	47
Kentucky	KY	21	Texas	TX	48
Louisiana	LA	22	Utah	UT	49
Maine	ME	23	Vermont	VT	50
Maryland	MD	24	Virginia	VA	51
Massachusetts	MA	25	Washington	WA	53
Michigan	MI	26	West Virginia	WV	54
Minnesota	MN	27	Wisconsin	WI	55
Mississippi	MS	28	Wyoming	WY	56
Missouri	MO	29			
Montana	MT	30	Puerto Rico	PR	72

NOTES: