



United States  
Department of  
Agriculture



National  
Agricultural  
Statistics Service

# January 2023 Commercial Floriculture Survey

**November  
2022**

**Interviewer's Manual**

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## Chapter 1 - GENERAL

The commercial floriculture survey is a census of over 13,000 commercial floriculture operations that annually produce and sell at least \$10,000 of fresh cut flowers, potted flowering plants, foliage plants, annual bedding and garden plants, potted herbaceous perennials, cut cultivated florist greens, and propagative (unfinished) floriculture material. Annual sales include retail and wholesale sales of items surveyed.

The commercial floriculture survey is conducted annually during the winter.

### Background and History

The National Agricultural Statistics Service (NASS) began surveying growers and making commercial floriculture estimates in 1956. At that time, it was a five State survey of five cut flowers. Over time the survey expanded to include 36 States and the coverage of commodities has changed significantly as the industry evolved. Due to the tightening of the Federal budget, in 2007, the Commercial Floriculture Survey program was reduced to 15 States. In 2019, a program review was conducted which expanded the program to 17 states. In 2022, a program review conducted, and the program was expanded to all 50 states.

The results of the Floriculture Crops 2021 summary showed that the wholesale value of the total crop value at wholesale for all growers with \$10,000 or more in sales is estimated at \$6.43 billion for 2021, compared with \$4.80 billion for 2020. The total wholesale value of floriculture crops sold by operations with \$100,000 or more of sales was \$6.18 billion for 2021, up 29 percent from the 2020 total. Much of this increase is due to the expansion in the number of states surveyed for 2021.

Government uses the survey data to measure the economic impact of the industry. The value of floriculture crops has exceeded \$5 billion annually, a significant contribution to farm income and the Gross Domestic Product. Clearly, the floriculture industry is a significant part of agriculture. The Society of American Florists (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 as they plan the future of their business. These estimates are also used to support industry claims in cases involving unfair trade practices and in trade negotiations.

## Scope

NASS continually works to develop partnerships with industry so that the information provided by our estimating program is the most useful to the industry as a whole. Periodically, NASS meets with these industry partners, including growers, the SAF, and other regional interest groups and allied industry members. At these meetings, the results of the latest *Floriculture Crops Summary* are discussed and plans for future surveys are made. The industry is asked to identify the data and crops they are interested in for the next survey. This process involves compromise since it is not possible to include everything that is requested. The intention of this survey is not to enumerate every possible floriculture crop; however, NASS tries to provide detailed statistics on the crops which are most important so trends in production can be evaluated. As with other segments of agriculture, NASS publishes value of sales for all commercial floriculture. For this reason, the questionnaire includes an “All Other” category for each flower group.

Several types of crops are covered under the floriculture heading including cut flowers, annual bedding plants, herbaceous perennials, cut cultivated greens, potted flowering plants and foliage plants for indoor and patio use. The survey also collects data on propagative floriculture materials, which includes cuttings, liners, plug seedlings, pre-finished plants and tissue cultures. Excluded from this survey are nursery products such as, but not limited to, deciduous shade trees, fruit and nut trees, evergreen trees, ornamental shrubs and bushes (including roses and azaleas for outdoor landscaping and ornamental purposes), grapevines and palms for outdoor landscaping. Christmas trees also are excluded.

A floriculture grower is defined for this census as any operation that produced and sold \$10,000 or more of product during the previous year. Detailed crop information is collected only from operations with \$100,000 or more in sales. Those with less than \$100,000 in sales are asked to report only area used for production, hired labor, and value of sales category.

## States

The January 2023 (2022 Production) Commercial Floriculture Survey will be conducted in all states. The 28 highest grossest value of sales states will be published, and the other 22 states will be published in an “Other States” category.

The 28 published program States are:

Alabama	Massachusetts	Tennessee
Alaska	Maryland	Texas
California	Massachusetts	South Carolina
Colorado	Michigan	Utah
Connecticut	Minnesota	Virginia
Florida	New Jersey	Washington
Georgia	New York	Wisconsin
Hawaii	North Carolina	
Illinois	Ohio	
Indiana	Oregon	
Iowa	Pennsylvania	

### Project Code

It is extremely important to charge all costs to the correct accounting classification code. Time and expenses associated with floriculture enumerations should be charged to **Project Code 148**.

**NOTES**

## Chapter 2 - TERMS and DEFINITIONS

Enumerators working on the Commercial Floricultural Survey should be familiar with the definitions of the terms listed below.

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

**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.

**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, Geraniums (from vegetative cuttings), Other 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.

**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.

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

**Bunch** - The unit by which some fresh cut flowers, such as Dahlias 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.

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

**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.

**Covered Production Area** - Any growing area with a permanent or temporary cover such as glass, fiberglass, plastic or saran.

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

**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. Excludes value added products, such as Christmas wreaths.

**Cut Flower** - A flower that has been removed from a growing plant. Cut flowers include Pompon Chrysanthemum, Dahlias, Gerbera Daisy, Gladioli, Iris, all Lilies, all Orchids, Peonies, all Roses, Sunflowers, Snapdragons, Tulips, and all other cut flowers.

**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.

**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.

**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.

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

**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.

**Rigid Plastic** - Rigid plastic materials, including fiberglass and structured sheets

that offer a lower cost alternative to glass.

**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.

**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.

**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.

**Hanging Basket** - A specialized container used for bedding and foliage plants for indoor or patio decoration.

**Herbaceous Perennial** - A non-woody plant 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.

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

**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.

**Natural Shade** - Shade provided by trees or other taller plants.

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

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

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

**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.

**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.

**Polyethylene (poly)** - Flexible, soft, milky plastic sheets, widely used for greenhouse roofs and walls.

**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 be confused with flats, since plants are potted separately in the carrier. Flats contain cell packs rather than pots.

**Potted Flowering Plant** - A plant used for indoor or patio use. Referred to as "pot crops" by the industry. Potted flowering plants include florist Chrysanthemum, Easter Lilies, all Orchids, Poinsettia, florist Rose, spring flowering bulbs and other potted flowering plants.

**Production Area** – The 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.

**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 a head of garlic), rhizomes (ie. Iris bulbs), and tubers are excluded from floriculture propagative material.

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

**Retail Sale** - Sale made directly to the consumer.

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

**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.

**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.

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

## List of Herbaceous Perennials

The following pages contain a partial listing of some of the more common herbaceous perennials. This list is not a complete list and some of the plants listed may or may not be perennials in some parts of the country that have extreme weather conditions.

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Common Name	Genus	Common Name	Genus
Acidanthera	<i>Acidanthera</i>	Cardinal flower	<i>Lobelia</i>
Adonis	<i>Adonis</i>	Carpet bugle	<i>Ajuga</i>
African blue lily	<i>Agapanthus</i>	Catchfly	<i>Lychnis</i>
Angelica	<i>Angelica</i>	Catchfly	<i>Silene</i>
Anise Hyssop	<i>Agastache</i>	Catmint	<i>Nepeta</i>
Asia bell	<i>Codonopsis</i>	Celandine	<i>Chelidonium</i>
Aster	<i>Aster</i>	Celandine poppy	<i>Stylophorum</i>
Avens	<i>Geum</i>	Cephalaria	<i>Cephalaria</i>
Baby's breath	<i>Gypsophila</i>	Chameleon plant	<i>Houttuynia</i>
Baldellia	<i>Baldellia</i>	Chamomile	<i>Anthemis</i>
Balloon flower	<i>Platycodon</i>	Checker-mallow	<i>Sidalcea</i>
Baneberry	<i>Actaea</i>	Chervil	<i>Anthriscus</i>
Barren strawberry	<i>Waldsteinia</i>	Cinquefoil	<i>Potentilla</i>
Barrenwort	<i>Epimedium</i>	Clover	<i>Trifolium</i>
Bear's breeches	<i>Acanthus</i>	Coltsfoot	<i>Tussilago</i>
Bearberry	<i>Arctostaphylos</i>	Columbine	<i>Aquilegia</i>
Bearded iris	<i>Iris, germanica</i>	Comfrey	<i>Symphytum</i>
Beardtongue	<i>Penstemon</i>	Coneflower	<i>Echinacea</i>
Bedstraw	<i>Galium</i>	Coralbells	<i>Heuchera</i>
Bee balm	<i>Monarda</i>	Corydalis	<i>Corydalis</i>
Bellflower	<i>Campanula</i>	Cotyledon	<i>Chiastophyllum</i>
Bittercress	<i>Cardamine</i>	Crambe, Kale	<i>Crambe</i>
Black-eyed daisy	<i>Rudbeckia</i>	Culver's root	<i>Veronicastrum</i>
Blackberry lily	<i>Belamcanda</i>	Cupid's dart	<i>Catanache</i>
Blanket flower	<i>Gaillardia</i>	Dactylis	<i>Dactylis</i>
Blazing star	<i>Liatris</i>	Dame's rocket	<i>Hesperis</i>
Bleeding heart	<i>Dicentra</i>	Daylily	<i>Hemerocallis</i>
Bletilla orchid	<i>Bletilla</i>	Dead nettle	<i>Lamium</i>
Blue buttons	<i>Knautia</i>	Dock	<i>Rumex</i>
Blue poppy	<i>Meconopsis</i>	Echium	<i>Echium</i>
Blue Stars	<i>Amsonia</i>	Edelweiss	<i>Leontopodium</i>
Bluebeard	<i>Caryopteris</i>	Elecampane	<i>Inula</i>
Bluebells	<i>Mertensia</i>	English daisy	<i>Bellis</i>
Bluet	<i>Centaurea</i>	Erodium	<i>Erodium</i>
Boltonia	<i>Boltonia</i>	Evening primrose	<i>Oenothera</i>
Borage	<i>Borago</i>	False hellebore	<i>Veratrum</i>
Brass buttons	<i>Cotula</i>	False Indigo	<i>Baptisia</i>
Brunnera	<i>Brunnera</i>	False lupine	<i>Thermopsis</i>
Bugloss	<i>Anchusa</i>	False Solomon's Seal	<i>Smilacina</i>
Buglossoides	<i>Buglossoides</i>	False spirea	<i>Astilbe</i>
Burnet	<i>Sanguisorba</i>	Fennel	<i>Foeniculum</i>
Buttercup	<i>Ranunculus</i>	Flax	<i>Linum</i>
Butterfly flower	<i>Asclepias</i>	Fleabane	<i>Erigeron</i>
Calamint	<i>Calamintha</i>	Foamflower	<i>Tiarella</i>
Calla lily	<i>Calla</i>	Foamy bells	<i>Heucherella</i>
Calla lily	<i>Zantedeschia</i>	Forget-me-not	<i>Myosotis</i>
Candytuft	<i>Iberis</i>	Foxglove	<i>Digitalis</i>
		Galtonia	<i>Galtonia</i>

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Common Name	Genus	Common Name	Genus
Gas plant	<i>Dictamnus</i>	Ligularia	<i>Ligularia</i>
Gentian	<i>Gentiana</i>	Lily-turf	<i>Liriope</i>
Geranium	<i>Geranium</i>	Liverleaf,Hepatica	<i>Hepatica</i>
Globe flower	<i>Trollius</i>	Loosestrife	<i>Lysimachia</i>
Globe thistle	<i>Echinops</i>	Loosestrife	<i>Lythrum</i>
Glyceria	<i>Glyceria</i>	Lungwort	<i>Pulmonaria</i>
Goatsbeard	<i>Aruncus</i>	Lupine	<i>Lupinus</i>
Golden saxifrage	<i>Chrysoplenium</i>	Maidenhair Fern	<i>Adiantum</i>
Goldenrod	<i>Solidago</i>	Mallow	<i>Malva</i>
Goutweed	<i>Aegopodium</i>	Marsh fern	<i>Thelypteris</i>
Green and gold	<i>Chrysogonum</i>	Marsh mallow	<i>Althaea</i>
Gunnera	<i>Gunnera</i>	Marsh marigold	<i>Caltha</i>
Hard fern	<i>Blechnum</i>	Marsh orchid	<i>Dactylorhiza</i>
Heather	<i>Calluna</i>	Masterwort	<i>Astrantia</i>
Helen's flower	<i>Helenium</i>	Meadow rue	<i>Thalictrum</i>
Heliopsis	<i>Heliopsis</i>	Meadowsweet	<i>Filipendula</i>
Hellebore	<i>Helleborus</i>	Merry bells, Bellwort	<i>Uvularia</i>
Hibiscus	<i>Hibiscus</i>	Milfoil	<i>Myriophyllum</i>
Hogweed	<i>Heracleum</i>	Mimulus	<i>Mimulus</i>
Holcus	<i>Holcus</i>	Mint	<i>Mentha</i>
Holly fern	<i>Cyrtomium</i>	Mock strawberry	<i>Duchesnea</i>
Hollyhock	<i>Alcea</i>	Mondo grass	<i>Ophiopogon</i>
Honesty, Money plant	<i>Lunaria</i>	Monkshood	<i>Aconitum</i>
Horned poppy	<i>Glaucium</i>	Mountain avens	<i>Dryas</i>
Houseleek	<i>Sempervivum</i>	Mt. Atlas Daisy	<i>Anacyclus</i>
Hyssop	<i>Hyssopus</i>	Mullein	<i>Verbascum</i>
Indigo	<i>Indigofera</i>	Navel-seed	<i>Omphalodes</i>
Iris	<i>Iris</i>	New Zealand burr	<i>Acaena</i>
Ironweed	<i>Vernonia</i>	Nightshade	<i>Solanum</i>
Ixiolirion	<i>Ixiolirion</i>	Obedient plant	<i>Physostegia</i>
Jacob's ladder	<i>Polemonium</i>	Oregano	<i>Origanum</i>
Jacob's rod	<i>Asphodeline</i>	Osmunda	<i>Osmunda</i>
Japanese Aster	<i>Kalimeris</i>	Ostrich fern	<i>Matteuccia</i>
Joe-pye weed	<i>Eupatorium</i>	Oxalis	<i>Oxalis</i>
Kenilworth ivy	<i>Cymbalaria</i>	Oxeye	<i>Bupthalmum</i>
Knotweed	<i>Polygonum</i>	Painted daisy	<i>Pyrethrum</i>
Lady's Mantle	<i>Alchemilla</i>	Pearlwort	<i>Sagina</i>
Lady Fern	<i>Athyrium</i>	Pearly everlasting	<i>Anaphalis</i>
Ladybells	<i>Adenophora</i>	Pennywort	<i>Hydrocotyle</i>
Larkspur	<i>Delphinium</i>	Peony	<i>Paeonia</i>
Lavender	<i>Lavandula</i>	Perennial pea	<i>Lathyrus</i>
Lavender cotton	<i>Santolina</i>	Periwinkle	<i>Vinca</i>
Leadwort	<i>Ceratostigma</i>	Persicaria	<i>Persicaria</i>
Leopard's bane	<i>Doronicum</i>	Per. sunflower	<i>Helianthus</i>
Lewisia	<i>Lewisia</i>	Petasites	<i>Petasites</i>
		P'hlomis	<i>Phlomis</i>

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Common Name	Genus	Common Name	Genus
Phlox	<i>Phlox</i>	Spurge	<i>Pachysandra</i>
Pimpernel	<i>Anagallis</i>	Squill	<i>Scilla</i>
Pineapple lily	<i>Eucomis</i>	Stachys	<i>Stachys</i>
Pinks, Thrift	<i>Dianthus</i>	Statice	<i>Limonium</i>
Plantain	<i>Plantago</i>	Stokes's aster	<i>Stokesia</i>
Plume poppy	<i>Macleaya</i>	Stonecrop	<i>Sedum</i>
Plumed thistle	<i>Cirsium</i>	Strawberry	<i>Fragraria</i>
Pokeweed	<i>Phytolacca</i>	St. John's wort	<i>Hypericum</i>
Polypody fern	<i>Polypodium</i>	Sun-rose	<i>Helianthemum</i>
Poppy	<i>Papaver</i>	Thrift	<i>Armeria</i>
Primrose	<i>Primula</i>	Thyme	<i>Thymus</i>
Puschkinia	<i>Puschkinia</i>	Tickseed	<i>Coreopsis</i>
Pussy toes	<i>Antennaria</i>	Toad lily	<i>Tricyrtis</i>
Ratibida	<i>Ratibida</i>	Toadflax	<i>Linaria</i>
Rhubarb	<i>Rheum</i>	Torch lily, Tritoma	<i>Kniphofia</i>
Rock cress	<i>Aubretia</i>	Tovara	<i>Tovara</i>
Rock jasmine	<i>Androsace</i>	Tree mallow	<i>Lavatera</i>
Rockcress	<i>Arabis</i>	Tritonia	<i>Tritonia</i>
Rodgersia	<i>Rodgersia</i>	Turtlehead	<i>Chelone</i>
Rodgersia	<i>Astilboides</i>	Umbrella plant	<i>Darmera</i>
Rosemary	<i>Rosmarinus</i>	Valerian	<i>Centranthus</i>
Rue	<i>Ruta</i>	Valerian	<i>Valeriana</i>
Sage	<i>Salvia</i>	Vervain	<i>Verbena</i>
Saxifrage	<i>Saxifraga</i>	Wall flower	<i>Cheiranthus</i>
Saxifrage	<i>Bergenia</i>	Wild ginger	<i>Asarum</i>
Scabious	<i>Scabiosa</i>	Willow herb	<i>Epilobium</i>
Scirpus	<i>Scirpus</i>	Windflower	<i>Gaura</i>
Scotch Thistle	<i>Onopordum</i>	Wood fern	<i>Dryopteris</i>
Sea holly	<i>Eryngium</i>	Woodsia fern	<i>Woodsia</i>
Self-heal	<i>Prunella</i>	Wormwood	<i>Artemisia</i>
Senecio	<i>Senecio</i>	Yarrow	<i>Achillea</i>
Sensitive fern	<i>Onoclea</i>	Yellow archangel	<i>Lamiastrum</i>
Shasta Daisy	<i>Leucanthemum</i>	Yellow waxbells	<i>Kirengeshoma</i>
Shield fern	<i>Polystichum</i>		
Skullcap	<i>Scutellaria</i>		
Skunk cabbage	<i>Symplocarpos</i>		
Skunk cabbage	<i>Lysichiton</i>		
Snakeroot	<i>Cimicifuga</i>		
Snow-in-summer	<i>Cerastium</i>		
Soapwort	<i>Saponaria</i>		
Solomon' s seal	<i>Polygonatum</i>		
Spartina	<i>Spartina</i>		
Speedwell	<i>Veronica</i>		
Spider lily	<i>Hymenocallis</i>		
Spiderwort	<i>Tradescantia</i>		
Spleenwort	<i>Asplenium</i>		
Spurge	<i>Euphorbia</i>		

***Notes***

## Chapter 3 – ENUMERATOR PROCEDURES

### Questionnaire Overview

The floriculture questionnaire is designed for collection of data by mail, phone, or personal interview. 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 January 2023 Commercial Floriculture Survey is intended to be a complete enumeration of all operators in your State that produced or finished and sold at least \$10,000 worth of floriculture crops during the 2022 calendar year. The production of floriculture crops may or may not be the primary source of income. A nursery that mainly grows trees or shrubs but produced and sold over \$10,000 in floriculture crops qualifies for this survey.

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.

### Methods of Data Collection

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.

### Mailed Questionnaires

Questionnaires will be mailed to the operations known to produce floriculture crops. Enclosed with the questionnaire will be a pre-survey letter encouraging cooperation. Your Regional office should provide you with a copy of this letter. A cover letter template is available on NASSportal at the Public Affairs Office site page at [PAO Survey Materials](#).

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

### **Telephone vs Personal Enumeration**

Regional Field Offices may send any operations regardless of their value of sales to the Data Collection Centers for phoning. When determining the best data collection mode regions should consider budget, contact agreements and complexity of operation being sampled.

The value of sales will determine which questions are routed through the BLAISE instrument for CATI calling. Those operations expected to have \$100,000 or more in sales should strongly be considered for personal interview due to the complexity of the questionnaire.

### **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.

## New Operations

Some new operations will be found during each year's list building process and data collection. A new floriculture operator found during this year's data collection should be interviewed. Please work with your Regional office prior to contacting, if possible, to prevent any duplication. If the new operation is not already on the list, you will be directed to complete a paper questionnaire.

## 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 office would be helpful.

## Out of Business Operations

If an operation went out of business during the 2022 production year, collect data for the portion of the year they were in business. If the operations was sold or turned over to someone else during 2023, the purchasing operation must be screened. Please contact your Regional office prior to contacting the purchasing operation to prevent duplication.

## Mailing Completed Work

Completed questionnaires should be forwarded to the Regional/State 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 assure prompt delivery. If you doubt that the last completed work will reach the Regional office by the final due date, call your supervisor for additional instructions.

## Multiple State Operations

Growers that operate in more than one State should complete a separate questionnaire for each State. The Regional office for the State in which the firm's headquarters is located is responsible for collecting data for all operations. Please contact your Regional office prior to contacting possible multi-state operations for guidance.

## Duplication

When a duplicate operation is identified, one report should be kept with the operation's data and the other reports should be coded as out of business.

**CAUTION:** With this survey, be careful not to mark a record as duplicate just because the same name appears more than once. Many greenhouse chain operations use the same name for each of their locations, each having a different address. Consult your Regional office. Check to see if the production data was reported for each location or if they were totaled on one report.

## 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. The OMB time for this survey is 60 minutes. 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."

**NOTES**

## Chapter 4 – COMPLETING the QUESTIONNAIRE

### General

#### INCLUDE:

- Flowers and plants finished by the operation.
- Vegetable type bedding plants sold for home use.
- Unfinished plants sold to other growers for growing-on.
- All production grown under glass, fiberglass, plastics, cloth, other covers and outdoors.
- Propagative floriculture material and unfinished plants such as cuttings, liners, plug seedlings, and tissue cultured plantlets sold to other operations.

#### EXCLUDE:

- Vegetable seedlings and vegetable transplants sold to commercial vegetable growers.
- Hydroponic vegetables, greenhouse grown vegetables, mushrooms or cut herbs for human consumption.
- Nursery products such as deciduous shade trees, fruit and nut trees, evergreen trees, ornamental shrubs, bushes, grapevines, and palms for outdoor landscaping.
  - Azaleas for outdoor landscaping use are considered broadleaf evergreens.
  - Roses for outdoor landscaping use are considered deciduous shrubs.
- Christmas trees, cut and to be cut.
- Aquatic and pond plants.
- 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 vs 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 most of the 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.

## Face Page

### INCLUDE:

- Operations that grow and sell a finished product to either the public or other retailers.
- Operations that purchase partially finished products and “grow-on” that product for resale.
- Operations that produce unfinished propagative floriculture material for sale to other growers.

### EXCLUDE:

- Operations that only handle finished products for resale. An operation must “grow on” the product for sale in order to qualify for the survey.
- Nursery plant material.

### 1. During 2022, which of the following Floriculture crops did this operation PRODUCE and SELL?

Response to this question is used to establish whether the operation on the label produced any floriculture crops or propagative floriculture material for sale during 2022. Check all the boxes of the categories that apply.

**2. Did this operation produce and sell \$10,000 or more of these Floriculture crops in 2022?**

This screening question determines if an operation that grows and/or finishes floriculture products meets the minimum requirements for inclusion in the survey for 2022. 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.

**2A. WILL THIS OPERATION PRODUCE AND SELL \$10,000 OR MORE IN 2023?**

This question should only be answered if sales were less than \$10,000 in 2022. The question further probes for expected sales in 2023. This information is used to determine which operations to include in next year's survey.

**3. Did this operation produce and sell \$100,000 or more of these Floriculture crops in 2022?**

This question establishes which sections of the questionnaire must be completed. If total sales equal or exceed \$100,000, all sections of the questionnaire are required. If total sales are between \$10,000 and \$100,000, only Sections 8, 9, and 11 are required. Again, do not include the sale of non-plant materials (pots, tools, chemicals, and other garden supplies) when calculating sales volume.

## SECTION 1: Cut Flowers

This section is to be completed by operations that produced cut flowers and had total sales of all floriculture crops of \$100,000 or more during 2022.

**INCLUDE:**

- Fresh flowers grown
- Dried flowers such as straw flowers and some production of statice, gypsophila, etc.

**Note** the different units required by flower type: These 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
Pompon Chrysanthemums, Dahlias, Waxflowers	Bunches
Gladioli and Snapdragons	Spikes
All Orchids	Blooms
Asters, Roses, Gerbera Daisies, Iris, all Lilies, Peonies, Protea, Sunflowers, Tulips, Delphinium/Larkspur, Lisianthus	Stems

The All Other Cut Flowers category uses a different format for reporting than the listed flowers. The questionnaire asks only for the percent of total quantity grown and sold at retail and wholesale because of the many different combinations of commodities and units (bunches, spikes, blooms, stems) that may be included in All Other Cut Flowers. The sum of retail percent (cell 0493) plus wholesale percent (cell 0494) must add to 100%. Please check these cells. Total value of retail and wholesale sales are the same as for the rest of the section.

## 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 \$100,000 or more during 2022.

### **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, or flowering hanging baskets to be reported in Section 4.
- Caladium to be reported in Section 4.
- Propagative floriculture material to be reported in Section 7 cuttings, liners, plug seedlings, and tissue culture liners.

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.”

### 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 \$100,000 or more during 2022.

**INCLUDE:**

- Field and container grown plants.

**EXCLUDE:**

Cuttings, liners, plug seedlings, bare root **herbaceous** perennials, pre-finished plants, tissue cultured plantlets (liners) and other unfinished propagative plants to be reported in Section 7.

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. A list of common herbaceous perennials to be reported under All Other Potted Herbaceous Perennials in this section is shown in the footnote on the questionnaire. A more inclusive list can be found starting on page 206 of this manual.

Record the number of pots sold by size group. Pot sizes for herbaceous perennials are less than 5 inches and 5 inches or larger.

**Note:** Also, include <1 gal, 1-2 gal, and >= 2 gal pots.

## 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 all floriculture crops of \$100,000 or more during 2022.

### INCLUDE:

- All flats, hanging baskets and pots (<5 or >5 inches) 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.
- 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 2.
- Foliage plants to be reported in Section 5.
- Plugs and propagative floriculture material to be reported in Section 7.
- Pre-finished plants sold to others for finishing to be reported in Section 7.

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

Production of potted Impatiens is separated into three categories, New Guinea Impatiens, Impatiens, interspecific hybrids, and Impatiens, Other. New Guineas are reported in a separate category. Be sure to emphasize this difference.

Baskets or pots of mixed flowers and vegetables are to be recorded under "other flowering."

Growers of vegetable and strawberry seedlings may sell to both commercial vegetable growers and home gardeners. The CFS covers only those sold for home use. Those sold to commercial vegetable growers are covered by the Census of Horticultural Specialties.

## 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. If a flat size other than the 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 an 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.

### 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.

## SECTION 5: Foliage Plants for Indoor or Patio Use (Pots and Baskets)

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 \$100,000 or more during 2022. 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.
- 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 before resale.
- 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 **hanging baskets**, the questionnaire asks for quantity and total value at both retail and wholesale, the same as for most other flowers.

## 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 \$100,000 or more during 2022.

### 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.
- Christmas tree operations that grow and sell cut cultivated florist greens to other people who make wreaths, bouquets, etc.

**Note:** This is before value is added by assembling arrangements.

### EXCLUDE:

- Greens harvested from the wild.
- Christmas tree operations that assemble wreaths, bouquets, etc. together and sell them.

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

The sum of retail percent (cell 0923) plus wholesale percent (cell 0924) must add to 100%. Please check these cells.

## **SECTION 7: Propagative Floriculture 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 \$100,000 or more during 2022.

### **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, and tubers.
- Any other material sold as bare or dormant roots.
- FINISHED plants sold to others to be reported in Sections 1, 2, 3, 4, 5, and 6.
- Nursery seedlings (trees, shrubs, and other woody ornamentals) to be included in the Census of Horticultural Specialties.

This section of the questionnaire collects total sales for each of the six major floriculture categories that correspond with the previous sections of the questionnaire.

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 floriculture 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 7. Grower C should report as finished production in the appropriate section of the questionnaire not in Section 7.

## SECTION 8: Area Used for Production

This section is to be completed by all operations that produced or sold any floriculture crops during 2022. 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.

### 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.

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 2022.

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

## **SECTION 9: Gross Value of Sales and Number of Hired Workers**

### **1. Total gross value of sales of floriculture crops in 2022.**

#### **INCLUDE:**

- Sales of the products identified in this questionnaire that were produced by the respondent.

#### **EXCLUDE:**

- Sales of fertilizer, statues, gardening books, chemicals, etc. Many growers will sell these other materials as convenience items to their customers; they should not be included in the total value of sales.
- Plants purchased and resold without being grown-on or finished.

This section is to be completed by all operations that produced or sold any floriculture crops during 2022. Ask the respondent to classify the operation into one of the sales ranges. The category selected should match the sum of sales reported throughout the form in Sections 1-7 for operations with \$100,000+ sales.

Use sales group 99 (\$0 to \$999) for new or small operations that had production but have not built up their inventory enough to start selling yet. The value in cell 0899 will be posted to ELMO at the conclusion of the survey, thus this small group code will identify operations that should be contacted on next year's survey.

**2. Largest number of workers on the payroll on any one day in 2022?**

**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.

Record the peak number of workers on the payroll on any one day in 2022 who were involved in the floriculture production part of the business.

## **SECTION 10: Change in Operator**

Complete this section only if Question 1 on the face page is answered “none,” meaning there was no floriculture production on the operation during 2022. This survey is a complete accounting of floriculture operations with value of sales of at least \$10,000 in 2022.

If a new operation is identified, additional data collection may be required. If an operation was in business part of 2022 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.

## SECTION 11: Conclusion

### Item 1: Additional Operations in this Region

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 1a: Was production from additional in-state operations included in this report?**

It is important to verify what occurred with the data for any additional operations. Remember, this project is a census of all active floriculture operations, so we need to identify any new ones and most importantly account for that data.

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

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).

#### **Item 2a: Was production from additional out-of-state operations included in this report?**

Operations which produce floriculture products in more than one State should complete separate questionnaires for each State. This is important because the floriculture data are published by State. Your State supervisor will let you know what information to collect for known multi-state operations.

If new multi-state operations are discovered, and you are unsure what information should be reported, ask your State supervisor for assistance. If a decision must be made immediately, the best action is to collect the operation names and information by State.

**Item 3: Survey Results**

Data collected on this survey will be available on-line ONLY via Quick Stats. It will be released at 3 p.m. EST, May 25, 2023. The NASS home page is: [www.nass.usda.gov](http://www.nass.usda.gov)..

**BACK PAGE – Administrative Data**

**Respondent Name**

Print the name of the person who completed the questionnaire.

**Phone Number – 9911**

The phone number box has been given an item code (9911) to help the NASS National Operations Center add additional phone numbers to the list frame from mail returns. For any enumerated questionnaire, normal NASS procedures should be used for updating or adding phone numbers. This would include making modifications to the printed label on the questionnaire.

**Completion Date – Cell 9910**

Enter the 2-digit month and day, and 4-digit year, the survey was completed.

**Response Code – Cell 9901**

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

<b>Valid Enumerator use codes are:</b>	<b>They appear on the Questionnaire as:</b>
1 - Complete	1 – Comp
5 - Refusal Estimated	5 - R – Est
6 - Inaccessible Estimated	6 - Inac – Est

**Respondent Code – Cell 9902**

This answers the question: Who responded?

<b>The codes are:</b>	<b>They appear on the Questionnaire as:</b>
1 - Operator/manager	1 - Op/mgr
2 - Spouse	2 – Sp
3 - Accountant/Bookkeeper	3 - Acct/Bkpr
4 - Partner	4 – Partner
9 - Other	9 – Oth

**Mode Code – Cell 9903**

This answers the question: How they responded?

**Valid codes for Enumerator to use are:**

1 – PASI (Mail)

2 – PATI (Tel)

3 – PAPI (Face

to Face)

6-Email

7 - FAX

19 - Other

**Enumerator Number – 9998**

Enter your 3-digit Enumerator Identification Number in cell 9998 and your name in the bottom office use cell.

**Evaluation Code- 9900 (Office Use)**

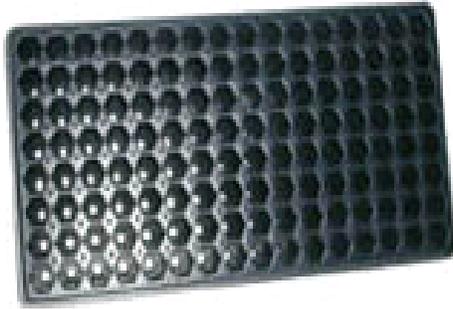
The Field Office will assign each survey completed an evaluation code of 1 – 5 based on criteria defined in each Regional Field Office.

**NOTES**

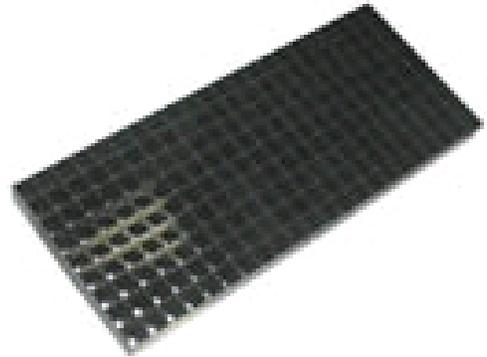
## Chapter 5 – MARKETING CONTAINER EXHIBITS

### Containers for Propagative Materials

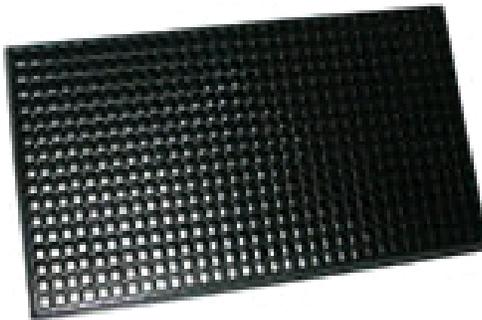
1.



2.



3.

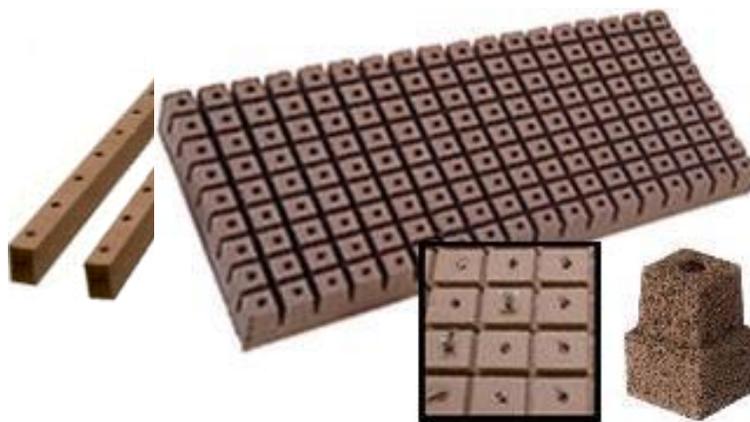


4.



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

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.

### 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.

### Cell Packs

1.



2.



3.



4.



5.



6.



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.

## 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.

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**Pot Carriers vs. Flats**

1.



2.



3.



4.



5.



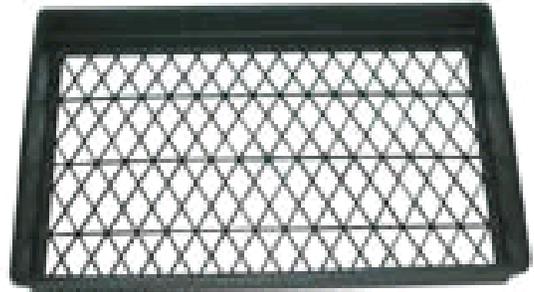
6.



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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## 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 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.

## 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 office.

**NOTES**