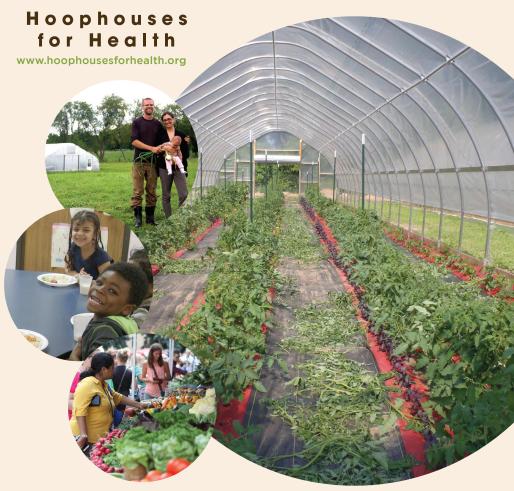


#### Hoophouse Production and Marketing Guide



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#### Introduction

#### Introduction to Hoophouses for Health

The goals of the Hoophouses for Health program are to increase vulnerable children and families' access to and awareness of healthy, local foods and to expand farmers' good food production and season extension infrastructure. This innovative project creates measurable, lasting collective impact, allows investment to work twice, and has been adaptable to communities of any size. Hoophouses for Health provides participating farmers with funding to build a new hoophouse. Farmers repay a five-year, zero-interest "loan" by accepting Hoophouses for Health Market Cards from participating families and/or by providing free produce to qualifying schools or early childhood programs. Farmers accept Market Cards for any food product or food-producing plant produced on their farm.

#### **INCREASING CAPACITY FOR FARMERS**



\$300,000 AVERAGE ANNUAL INVESTMENT 42
AVERAGE
ANNUAL FARM
PARTICIPATION

50,000 ft<sup>2</sup>

OF NEW EXTENDED-SEASON GROWING SPACE ADDED PER YEAR

#### **CONNECTING SCHOOLS WITH FRESH & HEALTHY PRODUCE**



37
AVERAGE NUMBER OF
HOOPHOUSES FOR HEALTH
AND FARM TO SCHOOL
RELATIONSHIPS PER YEAR

10,400

AVERAGE POUNDS OF FOOD PER YEAR PROVIDED BY HOOPHOUSES FOR HEALTH FARMERS TO SCHOOLS AND EARLY CARE AND EDUCATION SITES

#### **BRIDGING THE GAP FOR FAMILIES AND FARMERS**



1,000 FAMILIES RECEIVE INCENTIVES ON AVERAGE EACH YEAR \$55,000

OF HEALTHY, LOCAL FOOD PURCHASED AT FARMERS MARKETS WITH HOOPHOUSES FOR HEALTH INCENTIVES ON AVERAGE EACH YEAR



## **Hoophouse Crop Production and Pricing Guide Introduction**

This hoophouse/high tunnel guide is intended to provide suggestions and parameters for planting timeframes, in-row and between-row crop spacing, realistic yields, common cultivars, direct market and wholesale pack sizes, and direct market and wholesale pricing based on input and reporting from farmers involved with the Hoophouses for Health program from 2015-2018. The hoophouse growing information assumes growing without heat using a single layer of plastic. Planting timeframes, spacing, pricing, and planting intervals should be viewed as suggestions and should be adjusted based on your own experiences and records from your own farm(s). Direct market pack sizes are based on farmers' input. Wholesale pack sizes are based on USDA packing standards. Dates listed in charts are for Lansing, Michigan, and USDA Plant Hardiness Zone 5b, and should be adjusted for different farm locations.

#### **Notes on Pricing**

Prices for the crops listed in this guide were shared by farmers who participated in the Hoophouses for Health program from 2014-2017 and received technical assistance from the program. The farms varied in location, size, and markets, and they included the Upper Peninsula, Northeast Lower Peninsula, Northwest Lower Peninsula, Western Lower Peninsula, and Thumb regions of Michigan. All of the farms sold direct to consumers through farmers markets. Not all of the farms participated in wholesale markets, but for those that did, their markets included restaurants, public schools, non-public schools, detention centers, childcare facilities, and wholesale distribution companies. Farm production practices included United States Department of Agriculture (USDA), National Organic Program (NOP), Certified Organic, and organic practices. Pricing across farms varied depending on location, markets, and production practices. These prices should not be considered prices for a specific farm to use; rather, they are actual prices that farmers were receiving for their various products in the given time period.



BASIL BEETS

Commonly Planted Cultivars	Genovese, Italian Large Leaf, Eleonora
Transplant Age	4-6 weeks
In-Row Spacing	12 inches
Between-Row Spacing	12 inches
Expected Yield/Plant	0.5-2 lbs/plant
Direct Market Price Range	\$7-\$16/Ib
Wholesale Price Range	\$10-\$16/Ib
Direct Market Pack Size	1.5-2 oz bunch
Wholesale Pack Sizes	Box of 12- or 24-count bunches, or by the pound





Commonly Planted Cultivars	Red Ace, Merlin, Boldor, Chioggia
Transplant Age	N/A, direct seeded
In-Row Spacing	3-4 inches
Between-Row Spacing	6-10 inches
Expected Yield/100-ft Row	350-400 count
Direct Market Price Range	\$2-\$4/bunch (4-5 beets)
Wholesale Price Range	\$1.50-\$2.00/lb
Direct Market Pack Size	Bunch, 4-5 beets
Wholesale Pack Sizes	25 lb (1-5/9 bushel) box, 24-bunch case

### **CARROTS**

## **COLLARD GREENS**

Commonly Planted Cultivars	Sugarsnax, Napoli, Mokum, Romance
Transplant Age	N/A, direct seeded
In-Row Spacing	2-3 inches
Between-Row Spacing	3-8 inches
Expected Yield/100-ft Row	550-600 count
Direct Market Price Range	\$2-\$4/bunch
Wholesale Price Range	\$1-\$2/lb
Direct Market Pack Size	Bunch (8-10 carrots)
Wholesale Pack Sizes	25 lb (5/9 bushel) box





Commonly Planted Cultivars	Flash, Champion
Transplant Age	4 weeks
In-Row Spacing	10-12 inches
Between-Row Spacing	10-12 inches
Expected Yield/Plant	1-1.5 lbs
Direct Market Price Range	\$1-\$3/bunch
Wholesale Price Range	\$2-\$3/lb
Direct Market Pack Size	Bunch, 6-10 stems
Wholesale Pack Sizes	24-bunch box

## **CUCUMBERS**

### **EGGPLANT**



Commonly Planted Cultivars	Nadia, Orient Express, Calliope
Transplant Age	6-8 weeks
In-Row Spacing	24 inches
Between-Row Spacing	36 inches
Expected Yield/Plant	8-12 fruit for Italian types, 12-20 fruit for Asian types
Direct Market Price Range	\$1.50/fruit for Italian types, \$3-\$5/quart for Asian types
Wholesale Price Range	\$0.45/lb
Direct Market Pack Size	Single fruit, or quarts for specialty types
Wholesale Pack Sizes	25 lbs (1-1/9 bushel)

Commonly Planted Cultivars	Corinto, Socrates, Tasty Jade, Diva, Katrina
Transplant Age	4 weeks
In-Row Spacing	12 inches
Between-Row Spacing	12-36 inches
Expected Yield/Plant	10-25 count, 3-8 lbs
Direct Market Price Range	\$1-\$2/cucumber
Wholesale Price Range	\$0.75-\$1.25/lb
Direct Market Pack Size	Single fruit
Wholesale Pack Sizes	40 lb (1-1/9 bushel), 20 lb (5/9 bushel), 24-count box



### **HEAD LETTUCE**

## KALE



Commonly Planted Cultivars	Winterbor, Redbor, Toscano, Red Russian
Transplant Age	4 weeks
In-Row Spacing	10-12 inches
Between-Row Spacing	10-12 inches
Expected Yield/Plant	2-3 lbs
Direct Market Price Range	\$2-\$3.50/bunch
Wholesale Price Range	\$2-\$3
Direct Market Pack Size	Bunch, 6-10 stems
Wholesale Pack Sizes	24-bunch box

Commonly Planted Cultivars	Rouge d'Hiver, Adriana, New Red Fire, Red Cross, Coastal Star, Magenta, Sparx
Transplant Age	4 weeks
In-Row Spacing	10-12 inches
Between-Row Spacing	10-12 inches
Expected Yield/100-ft Row	90-100 heads
Direct Market Price Range	\$1.50-\$3/head
Wholesale Price Range	\$1.50-\$2
Direct Market Pack Size	Head
Wholesale Pack Sizes	24-count box; 10-, 20-, or 25-lb box



## PEPPERS (BELL/SWEET)

Commonly Planted Cultivars	California Wonder, XR3 Red Knight, Ace, Gourmet, King Arthur, Islander, Carmen, Escamillo
Transplant Age	6-8 weeks
In-Row Spacing	12-18 inches
Between-Row Spacing	12-18 inches
Expected Yield/Plant	4-6 lbs (8-12 fruit)
Direct Market Price Range	\$1.50-\$2/fruit
Wholesale Price Range	\$0.75-\$1.50
Direct Market Pack Size	Single fruit
Wholesale Pack Sizes	25 lb (1-1/9 bushel), 10-12 lb (5/9 bushel)







Commonly Planted Cultivars	Emperor, Bloomsdale, Reflect, Carmel
Transplant Age	5 weeks or direct seeded
In-Row Spacing	6-12 inches (direct seeded: 2-4 inches)
Between-Row Spacing	6-12 inches (direct seeded: 4-6 inches)
Expected Yield/Plant	0.5-0.75 lbs
Direct Market Price Range	\$3-\$9/Ib
Wholesale Price Range	large leaf, \$5/lb; baby spinach, \$7-\$8/lb
Direct Market Pack Size	Bag, 0.3-0.5/lb
Wholesale Pack Sizes	Large leaf, 24-bunch box; baby, 6-, 12-, or 16-oz clamshells

#### **SWISS CHARD**

#### Bright Lights, Celebration, Magenta, Fordhook Giant **Commonly Planted Cultivars Transplant Age** 4-5 weeks **In-Row Spacing** 10-12 inches Between-Row Spacing 10-12 inches **Expected Yield/Plant** 1-1.5 lb **Direct Market Price Range** \$1.50-\$3.50/bunch \$2-\$3/lb Wholesale Price Range Bunch, 6-10 stems Direct Market Pack Size Wholesale Pack Sizes 24-bunch box

#### **TOMATOES: CHERRY**





Commonly Planted Cultivars	Sungold, Sunsugar, Sakura, Black Cherry, Esterina
Transplant Age	6-9 weeks
Cell Size	72-cell tray to 3-inch pot
In-Row Spacing	12-18 inches
Between-Row Spacing	3-4 feet
Expected Yield/Plant	15-25 lbs
Direct Market Price Range	Conventional, \$2-\$2.50/pt; Functional Organic, \$3-\$3.50/pt; Certified Organic, \$4/pt
Wholesale Price Range	Conventional, \$1.50-\$2.50/lb; Functional Organic, \$3.50-\$4.50/lb; Certified Organic, \$4-\$5/lb
Direct Market Pack Size	Pint or quart berry box
Wholesale Pack Sizes	Pint or quart clamshell with label, 1–2 pints per case

## TOMATOES: HEIRLOOM



## TOMATOES: SLICER

Commonly Planted Cultivars	(not an all-inclusive list) Indeterminate Cultivars: Big Beef, Arbason, Big Dena Determinate Cultivars: Mountain Fresh, Primo Red, BHN 589
Transplant Age	6-9 weeks
Cell Size	72-cell tray to 3-inch pot
In-Row Spacing	18-24 inches
Between-Row Spacing	3-4 feet
Expected Yield/Plant	15-25 lbs
Price Range	Red Slicers, \$1.50-\$2.50/lb
Direct Market Pack Size	Quart berry box (4–5/quart) or per pound
Wholesale Pack Sizes	10 lbs, single layer; 20 lbs, double layer; 25-lb cartons

Commonly Planted Cultivars	(not an all-inclusive list) Berkeley Tie Dye, Green Zebra, Cherokee Purple, Valencia, Striped German
Transplant Age	6-9 weeks
Cell Size	72-cell tray to 3-inch pot
In-Row Spacing	18-24 inches
Between-Row Spacing	3-4 feet
Expected Yield/Plant	15-25 lbs
Price Range	Heirloom Slicers, \$2-\$3/lb
Direct Market Pack Size	Quart berry box (4-5/quart) or per pound
Wholesale Pack Sizes	10 lbs, single layer; 20 lbs, double layer; 25-lb cartons





## Warm Season Hoophouse Crop Planting Chart

Crop	Cultivars	Transplant (TP) or Direct Seed (DS)	Seed Date	Transplant Date	Age of Transplant	Interval for Succession Planting
Basil	Genovese	TP	3/15	5/1	6 weeks	5-6 weeks
Cucumber	Socrates, Corinto, Diva, Katrina	TP	4/1	5/1	4 weeks	4-6 weeks
Green Bean	Provider	DS	3/15	N/A	N/A	3 weeks
Eggplant	Nadia, Orient Express, Fairy Tale	TP	3/1	5/1	8 weeks	4-6 weeks
Pepper (Bell/ Sweet)	Red Knight, Gourmet, Paladin	TP	2/15	4/15	8 weeks	4-6 weeks
Pepper (Hot/ Specialty)	Jalafeugo, Havasu, Baron, Tiburon, Carmen	TP	2/15	4/15	8 weeks	4-6 weeks
Summer Squash/ Zucchini	Goldy, Plato	TP	3/1	4/1	4 weeks	4 weeks
Sweet Potato	Beauregard		4/15	6/1	4-6 weeks	N/A
Tomatillo	Toma Verde	TP	3/1	4/15	4 weeks	6-8 weeks
Tomato	Mountain Fresh, Mountain Magic, Green Zebra, Carbon, Cherokee Purple	TP	3/1	4/15	6 weeks	6-8 weeks

## Cool Season Hoophouse Crop Planting Chart

Crop	Cultivars	Transplant (TP) or Direct Seed (DS)	Seed Date	Transplant Date	Age of Transplant	Interval for Succession Planting
Beet	Red Ace, Touchstone Gold, Chioggia	DS	8/1-9/8	-	-	-
Carrot	Napoli	DS	7/18-8/3	-	-	-
Chinese Cabbage	Bilko	TP	7/17-8/8	8/13-9/8	3-4 weeks	-
<b>Collard Greens</b>	Georgia, Flash	TP	7/17-8/8	8/13-9/8	3-4 weeks	-
Head Lettuce	Winter Density, Adriana, Rouge d'Hiver	TP	8/3-8/8	9/3-9/8	4 weeks	-
Kale	Red Russian, Toscano, Winterbor	TP	7/17-8/8	8/13-9/8	3-4 weeks	-
Kohlrabi	Winner	DS/TP	8/3-8/7		3-4 weeks	-
Pak Choi	Black Summer, Red Choi	TP	7/17-8/8	8/13-9/8	3-4 weeks	-
Radish	Sora, D'Avignon	DS	8/21-9/21			1 week
Salad Mix	Red Russian Kale, Arugula, Frilly Mustard, Salad Bowl Series		7/17-8/8	8/13-9/8	3-4 weeks	2 weeks in warm months, 1 week in cooler
Scallion	Evergreen Hardy White	DS	7/21-8/3	-	-	-
Spinach	Space, Tyee, Regiment	DS/TP	8/13-10/8	9/7-10/7	3-4 weeks	1 week
Swiss Chard	Bright Lights	TP	7/17-8/8	8/13-9/8	3-4 weeks	-
Turnip	Hakurei	DS	8/6-9/21	-	-	-





Photo Credit: MIFMA

	Direct M	larket Prices		Wholesale Prices				
Crop	Conventional	Organic Practices (Not USDA NOP)	USDA NOP Certified Organic	Crop	Conventional	Organic Practices (Not USDA NOP)	USDA NOP Certified Organic	
Basil	\$7-8	\$12-16	\$14-16	Basil	\$4-10	\$8-12	\$14-16	
Beet	\$1-\$2.50	\$2-3	\$2.50-4	Beet	\$0.60-1	\$1.30-\$2	\$2-2.30	
Carrot	\$2-3	\$2.25-3	\$3-4	Carrot	\$0.30-0.75	\$1.30-2.25	\$1.50-2.50	
Celery	\$1.50-2	\$2-3	\$4	Celery	\$0.75-1.65	\$1.25-2	\$1.50-3	
Chinese Cabbage	\$1	\$1.50-3	\$1.50-3	Chinese Cabbage	\$0.75-1.50	\$1-2	\$1.75-3	
Cilantro	\$7-8	\$12-16	\$14-16	Cilantro	\$4-10	\$8-12	\$14-16	
Collard Greens	\$1-2	\$1.50-5	\$2-6	Collard Greens	\$0.75-1.25	\$1-3	\$1.50-3	
Cucumber	\$1.50-2	\$1.50-2.50	\$2.50-3	Cucumber	\$0.50-0.75	\$0.75-1.50	\$1-1.75	
Eggplant	\$1.50	\$1.50-2	\$2-3	Eggplant	\$1-1.25	\$1.25-2	\$1.75-2.50	
Kale (Baby)	\$7-9	\$8-12	\$12-16	Kale (Baby)	\$3-4	\$3-7.50	\$4-10	
Kale (Large Leaves)	\$1.50-2	\$3	\$3-3.50	Kale (Large Leaves)	\$0.75-2.50	\$1-3	\$1.50-3	
Lettuce (Heads)	\$2-2.50	\$2.50-3	\$4-5	Lettuce (Heads)	\$1.50-2.50	\$2.50-3	\$4-5	
Pak Choi	\$2-3	\$2.50-3.50	\$2.50-4	Pak Choi	\$1-1.50	\$1.50-2.50	\$1.50-3	
Parsley	\$7-8	\$12-16	\$14-16	Parsley	\$3.50-10	\$8-12	\$14-16	
Pepper (Green)	\$2	\$1.50-2	\$2	Pepper (Green)	\$0.75-1.25	\$1.50-2.50	\$1.75-2.75	
Pepper (Hot)	\$1.25-1.75	\$1.50-2.50	\$2-3	Pepper (Hot)	\$0.75-1.25	\$1.50-2.50	\$1.75-2.75	
Pepper (Colored)	\$2.50-3	\$2.50-3	\$4	Pepper (Colored)	\$1-1.30	\$1.25-1.75	\$1.25-2	
Radish	\$1.50-1.75	\$1.75-3	\$2-3	Radish	\$0.50-0.85	\$1-1.75	\$1-2	
Salad Mix	\$7-9	\$8-12	\$12-16	Salad Mix	\$1-4	\$3-7.50	\$4-10	
Scallions	\$1.25-2	\$1.50-2.25	\$1.75-3	Scallions	\$1-1.25	\$1.25-2	\$1.50-2.50	
Spinach	\$7-8	\$8-9	\$10-12	Spinach	\$3-8	\$4-6	\$5-8	
Summer Squash/ Zucchini	\$1	\$1-1.50	\$1-2	Summer Squash/ Zucchini	\$0.50-0.75	\$0.75-1.25	\$0.75-1.50	
Tomatoes (Cherry)	\$1.50-2.50	\$3.50-4.50	\$5	Tomatoes (Cherry)	\$1-1.50	\$1-2.50	\$1.50-3.50	
Tomatoes (Red Slicers)	\$1.30-2.50	\$2.50-3	\$2.50-3	Tomatoes (Red Slicers)	\$0.75-1.55	\$1-2.50	\$1.50-2.50	
Turnips (Hakurei)		\$1.75-2	\$2-2.50	Turnips (Hakurei)		\$1-1.25	\$1-1.75	

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Photo Credit: MIFM	/ A V

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Crop	Cultivars	Transplant (TP) or Direct Seed (DS)	In-Row Spacing (inches)	Between- Row Spacing (inches)	Number of Transplants (3 ft x 90 ft bed)	Approximate Expected Yield (3 ft x 90 ft bed)	Notes/Assumptions	Direct Market Pack Sizes	Wholesale Pack Sizes
Basil	Dolly, Genovese	TP	12	12	270	135 lbs	0.5 lb/plant	Bunch, 1.5-2 oz	12- or 24-count box
Beet	Merlin, Red Ace, Boldor, Touchstone Gold, Chioggia	DS	3	8	N/A	1,440 beets, 360 bunches (of 4), 700 lbs	4 rows, 4 beets/ft, 0.5 lb/beet with greens	Bunch, 4-5 count	25 lbs, 1-5/9 bushel box; 24-bunch case
Carrot	Napoli, Mokum, Sugarsnax, Purple Haze, Yellowbunch	DS	2	4	N/A	3,660 carrots, 450 bunches (of 8), 900 lbs	8 rows, 5 carrots/ft, 0.25 lb/carrot with greens	Bunch	25 lbs, 1-5/9 bushel box
Celery	Conquistador	TP	10	24	270	Head	48-count carton	-	-
Chinese Cabbage	Bilko	TP	12	12	270	243 heads	90% marketable yield	Head	12- or 24-count box
Cilantro	Calypso, Crusier, Santo	TP	12	12	270	135 lbs	0.5 lb/plant	Bunch, 1.5-2 oz	12- or 24-count box
Collard Greens	Flash	TP	12	12	270	1,080 bunches	24 leaves/plant, 6 leaves/bunch, 4 bunches/plant	Bunch, 6-10 stems	24-bunch box
Cucumber	Socrates, Corinto, Diva, Iznik (mini), Katrina	TP	12	N/A	90	1,080 lbs	12 lbs/plant	Single fruit	40 lbs, 1-1/9 bushel box; 20 lbs, 5/9 bushel box; 24-count box
Eggplant	Nadia, Orient Express, Fariy Tale	TP	24	N/A	45	-	Single fruit, or quart for specialty types	25 lbs, 1-1/9 bushel	-
Kale	Winterbor, Redbor, Toscano, Red Russian	TP	12	12	270	1,080 bunches	24 leaves/plant, 6 leaves/bunch, 4 bunches/plant	Bunch, 6-10 stems	24-bunch box
Lettuce (Head)	New Red Fire, Adriana, Skyphos, Winter Density, Green Forest, Sparx	TP	12	12	270	243 heads	90% marketable yield	Head	24-count box; 10-, 20-, or 25-lb box
Pak Choi	Joi Choi	TP	12	12	270	243 heads	90% marketable yield	Head	30 lbs
Pak Choi (Baby)	Li Ren Choi	TP	6	6	540	486 heads	90% marketable yield	Bunch of 3	10 lbs
Parsley	Giant of Italy, Fidelio	TP	12	12	270	135 lbs	0.5 lb/plant	Bunch, 1.5-2 oz	12-, 24-, or 30-count box
Pepper (Bell/ Sweet)	X3R Red Knight, Gourmet, Paladin	TP	12-18	12-18	180 or 120	1,800 or 1,200 peppers	10 peppers/plant	Single fruit	25 lbs, 1 1/9 bushel box; 10–12 lbs, 5/9 bushel box

# Crop Yield and Pack Size Info Continued...

						3000			
Crop	Cultivars	Transplant (TP) or Direct Seed (DS)	In-Row Spacing (inches)	Between- Row Spacing (inches)	Number of Transplants (3 ft x 90 ft bed)	Approximate Expected Yield (3 ft x 90 ft bed)	Notes/Assumptions	Direct Market Pack Sizes	Wholesale Pack Sizes
Pepper (Hot/ Specialty)	Jalafeugo, Havasu, Baron, Tiburon, Carmen	TP	12-18	12-18	180 or 120	Pint	8-lb box	-	-
Radish	Rover, Crunchy Royale, Nero Tondo, Easter Egg	DS	2	4	N/A	3,660 radishes, 366 bunches (of 10), 366 lbs	8 rows, 5 radishes/ft, 0.1 lb/radish with greens	Bunch, 10-15 count	24-count box
Salad/ Lettuce	Various	DS	1-2	2-3	N/A	135 lbs	0.5 lb/sq ft (3 cuts)	Bag, 3 or 8 oz	6-, 12-, or 16-oz clamshells, 12-24 per case
Mix (Baby Leaf)	Multi-leaf Heads	TP	12	12	270	135 lbs	0.5 lb/multi-leaf head (cored)	Bag, 3 or 8 oz	6-, 12-, or 16-oz clamshells, 12-24 per case
Scallion	Evergreen Hardy White, Deep Purple	DS	2	4	N/A	4,374 scallions, 875 bunches (of 6)	90% marketable yield	Bunch, 5-6 count	24- or 48-bunch box
Scallion		TP	2	4	4860	4,374 scallions, 875 bunches (of 6)	90% marketable yield	Bunch, 5-6 count	24- or 48-bunch box
Spinsoh	Emperor, Reflect, Space	TP	6-12	6-12	1080 at 6in spacing 270 at 1ft spacing	Bag, 0.3-0.5 lb	24-bunch box; for baby, 6-, 12-, or 16-oz clamshells, 12-24 per case	-	-
Spinach		DS	2	4-6	N/A	Bag, 0.3-0.5 lb	24-bunch box; for baby, 6-, 12-, or 16-oz clamshells, 12-24 per case	-	-
Summer Squash/ Zucchini	Costata Romanesco, Green Machine, Goldmine	TP	24	N/A	45	450 squash	10 squash/plant	Single fruit	20 lbs, 5/9 bushel box
Swiss Chard	Bright Lights, Fordhook Giant, Peppermint	TP	12	12	270	1,080 bunches	24 leaves/plant, 6 leaves/bunch, 4 bunches/plant	Bunch, 6-10 stems	24-bunch box
Tomatoes (Cherry)	Sungold, Sakura, Sunpeach, Black Cherry, Favorita	TP	12	N/A	90, 60, or 45	Pint or quart berry box	Pint or quart clamshells, 12 pints/case	-	-
Tomatoes (Slicer)	Mountain Fresh, Mountain Magic, Green Zebra, Carbon, Cherokee Purple, Valencia, Big Beef	TP	18-24	N/A	90, 60, or 45	Quart berry box (4-5/quart) or per pound	10 lbs, single layer; 20 lbs, double layer; 25-lb cartons	-	-
Turnips	Hakurei	DS	3	4-6	N/A	Bunch, 4-5 turnips	12- or 24-count box	-	-



#### **Acknowledgments**

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