Table 1. Guide to sowing vegetable and annual flower seeds in the home.

Time to Seed Before Last Frost	Plant Types	Germination Time (days)	Growth Rate	Cold & Frost Tolerance After Hardening
	VEGETABLES			
10 weeks	Broccoli*	6-10	medium	good
10 weeks	Cabbage*	6-10	medium	good
10 weeks	Cauliflower*	6-10	medium	good
10 weeks	Head lettuce	3-5	medium	good
7 weeks	Tomato	6-10	medium	none
7 weeks	Eggplant	7-14	medium	none
7 weeks	Pepper	7-14	medium	none
4 weeks	Cucumber	4-6	fast	none
4 weeks	Cantaloupe	4-6	fast	none
4 weeks	Squash	4-6	fast	none
4 weeks	Watermelon	4-6	fast	none
	FLOWERS			
14 weeks	Begonia	10-12	slow	none
14 weeks	Pansy	6-10	medium	good
14 weeks	Violet	6-10	medium	good
12 weeks	Lobelia	15-20	slow	none
12 weeks	Stocks	10-14	medium	good
11 weeks	Black-eyed Susan vine	10-12	slow-medium	none
11 weeks	Impatiens	15-18	medium	none
11 weeks	Torenia	10-15	medium	medium
10 weeks	Petunia	6-12	slow-medium	slight
9 weeks	Ageratum	5-8	medium	none
9 weeks	Scabiosa	8-12	medium	slight
9 weeks	Snapdragon	7-12	medium	medium
9 weeks	Verbena	12-20	medium	slight
8 weeks	Bells of Ireland	21+	medium	medium
8 weeks	Dianthus	5-7	medium	medium
8 weeks	Salpiglossis (Painted Tongue)	8-10	medium	none
8 weeks	Vinca (Periwinkle)	10-15	medium	none
8 weeks	Scarlet Sage (Salvia)	12-15	medium	none
8 weeks	Statice	15-20	medium	slight
7 weeks	Nicotiana	10-15	medium	slight
7 weeks	Nierembergia	10-15	medium	slight
7 weeks	Phlox, Annual	6-10	medium-fast	none
7 weeks	Sweet Alyssum	4-8	fast	slight
6 weeks	Aster	8-10	medium	slight
6 weeks	Balsam	6-8	medium-fast	none
6 weeks	Celosia (Cockscomb)	6-10	fast	none
6 weeks	Cornflower	6-10	fast	good
6 weeks	Marigold	5-7	fast	none
6 weeks	Portulaca	6-10	fast	none
4 weeks	Cosmos	5	fast	none
4 weeks	Zinnia	5-7	fast	none

*Note: These vegetables are commonly grown as fall crops as well as spring/summer transplants. Start seeds 5-7 weeks (7-9 weeks for cauliflower) before plant out date. Planting out date depends on length of season for your particular cultivar and the date of first frost for your location(see Figure 4). It will usually be between July 15 and August 1.

*This publication was originally authored by M. N. Dana and Allen E. Boger, Retired Extension Educator, Allen County.

For more information on the subject discussed in this publication, consult your local office of the Purdue University Cooperative Extension Service.

PLANTING MAP/GUIDE/DATES

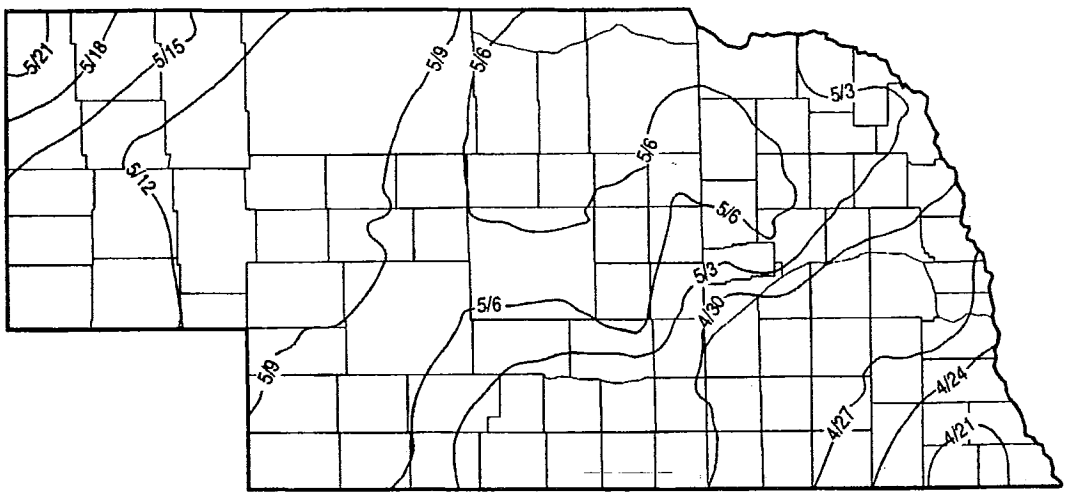
The planting area maps which follow can be used to determine the average date of the last spring frost, the first fall frost and the approximate length of the growing season in your area. Actual dates will vary due to local conditions and yearly temperature fluctuations. The average date of last killing frost in the spring can be used to adapt the Recommended Planting Dates Charts for both spring and fall planting, to your particular area. Specific instructions accompany this chart.

This chart can be used to tell the approximate earliest and latest date for a spring or fall planting of each crop and the average length of harvest for each crop. This is particularly important in making maximum use of garden space by following one crop with another as soon as the first harvest is complete.

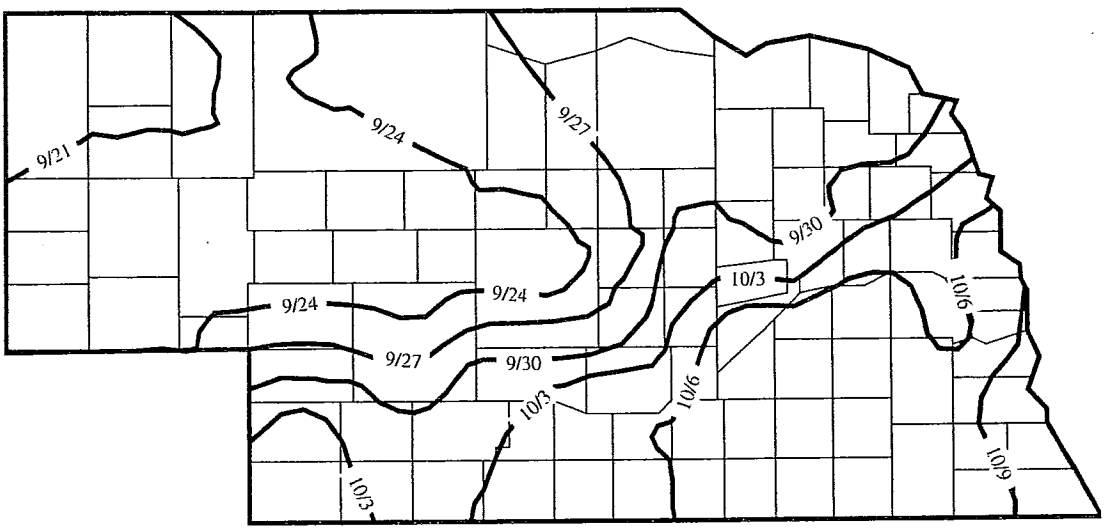
The Vegetable Cultural Descriptions and Vegetable Planting Guide can be used to determine the approximate amount of crop to plant for the desired yield, the amount of seed or transplants required for that amount of crop, and proper spacing between plants in a row.

In intensive, raised-bed gardens, use the in-row figures between all plants; i.e., use equidistant spacing between plants. Sow seeds to a depth three to five times the diameter of the seed. For mid-summer plantings, sow up to twice this depth.

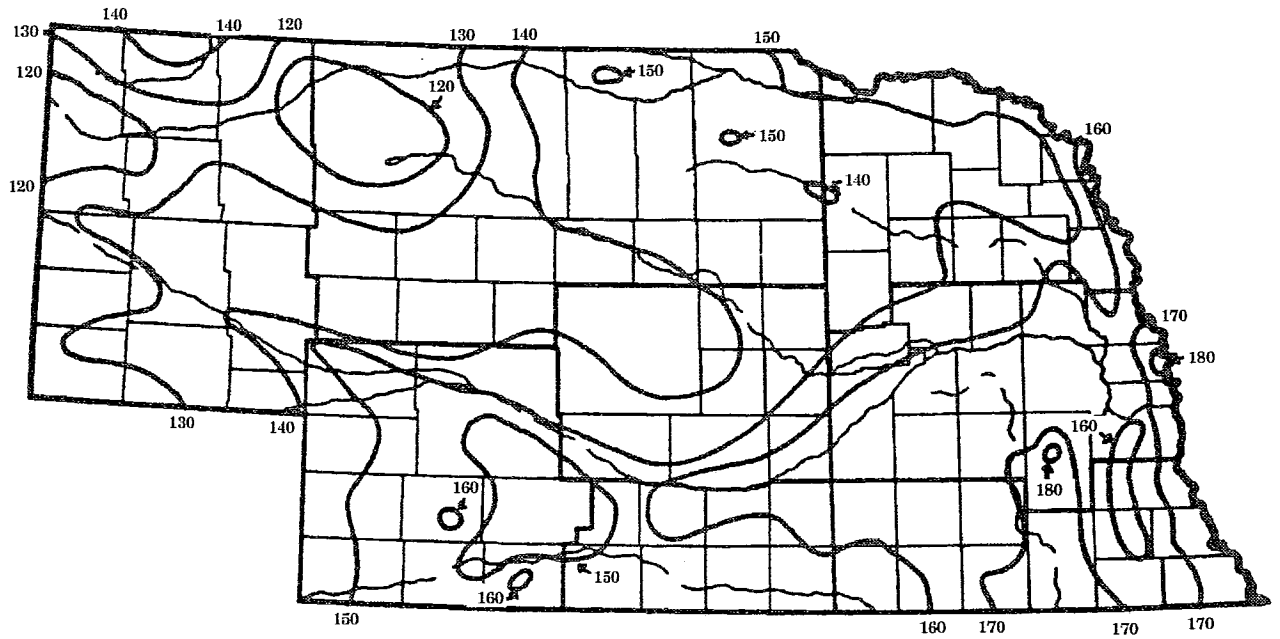
PLANTING AREAS MAP



Median spring freeze (32°F) date. Half of all spring freezes will occur before the dates shown on this map and half will occur after (based on 45 years of record 1950-1994).



Median autumn freeze (32°F) date. Half of all autumn freezes will occur before the dates shown on this map and half will occur after (based on 47 years of record, 1949-1995).



Average number of days between last spring and first fall 32°F temperature.
Map based on data from the 50-year period 1921-1970.

Ease of Transplanting Selected Vegetables

Easily Survive Transplanting	Require Care in the Operation	Not Successfully Transplanted by Usual Methods
Broccoli	Celery	Bean
Cabbage	Melon	Corn
Cauliflower	Cucumber	Pea
Eggplant	Squash	Okra
Lettuce	Watermelon	
Chinese cabbage		
Sweet potato slips		
Onion		
Tomato		
Pepper		

Viability of Vegetable Seeds (average number years seeds may be saved)

Vegetable	Years	Vegetable	Years
Asparagus	3	Leek	1
Bean	3	Lettuce	5
Beet	4	Muskmelon	5
Broccoli	5	Mustard	4
Brussels sprouts	5	Okra	2
Cabbage	5	Onion	1-2
Carrot	3	Parsley	2
Cauliflower	5	Parsnip	1-2
Celery	5	Pea	3
Chinese cabbage	5	Pepper	4
Collard	5	Pumpkin	4
Corn	5	Radish	5
Cress, water	5	Rutabaga	5
Cucumber	5	Spinach	5
Eggplant	5	Squash	5
Endive	5	Sweet corn	1-2
Kale	5	Tomato	4
Kohlrabi	5	Turnip	5
		Watermelon	5

Seed Germination Information

Crop	Days to Emergence	Optimum Soil Temperature (Degrees F)	Number of Weeks to Grow Transplants
Bean	5 - 10	60° - 85°	*
Bean, Lima	5 - 10	65° - 85°	*
Beet	7 - 10	50° - 85°	*
Broccoli	3 - 10	50° - 85°	5 - 7
Cabbage	4 - 10	45° - 85°	5 - 7
Carrot	12 - 18	45° - 85°	*
Cauliflower	4 - 10	45° - 85°	5 - 7
Celery	9 - 21	60° - 70°	10 - 12
Chard, Swiss	7 - 10	50° - 85°	*
Corn, Sweet	5 - 10	60° - 95°	*
Cucumber	4 - 8	60° - 85°	3 (in jiffy pellets)
Eggplant	6 - 10	70° - 85°	6 - 9
Lettuce (iceburg or romaine)	6 - 8	40° - 80°	4 - 5
Melons	6 - 8	75° - 95°	3 (in jiffy pellets)
Okra	7 - 10	70° - 95°	*
Onion	7 - 10	50° - 95°	8
Parsley	15 - 21	50° - 85°	8
Pea	6 - 10	40° - 75°	*
Pepper	7 - 20	65° - 95°	6 - 8
Potato, Sweet	(slips)	65° - 85°	5 - 6
Radish	3 - 6	45° - 90°	*
Spinach	7 - 12	45° - 75°	*
Squash	3 - 6	70° - 95°	3 (in jiffy pellets)
Tomato	6 - 12	60° - 85°	5 - 7
Turnip	4 - 8	60° - 105°	*
Watermelon	5 - 8	70° - 95°	3 (in jiffy pellets)

* transplants not recommended

Vegetable Planting Guide

Table 1.

Vegetable	Hardiness	For Fall Planting Too	Spacing		Seed Planting Depth (inches)	Approximate Quantity Seed or Plants needed for 50' row	Amount to plant per person
			Between plants (inches)	Between rows (inches)			
Asparagus (plts)	H	perennial	9-12	48		50-60 plts	
Bean, lima	T		5	36	1-1 1/2	2-40 lbs	10' row
Bean, snap	T	Y	5	36	1-1 1/2	2 oz.	10' row
Bean, pole	T		6	48	1-1 1/2	40 oz. 1/2 lb	10' row
Beets	HH	Y	3	18	1/2 - 1	1 oz.	10' row
Broccoli	H	Y	18	36	1/4 - 1/2	36 plts	3 plts
Brussels sprouts	H	Y	18-24	36	1/4 - 1/2	36 plts	
Cabbage	H	Y	18-24	36	1/4 - 1/2	36 plts	3 plts
Carrots	HH	Y	2	18	1/4	1/4 oz.	10' row
Cauliflower	HH	Y	18	36	1/4 - 1/2	36 plts	3 plts
Celeriac	HH		6	24	1/8	1 pkt	5' row
Celery	HH		6	24	1/8	150 plts	4 plts
Chinese cabbage	H	Y	18	24	1/4 - 1/2	36 plts	2-3 plts
Collards	H	Y	24	24	1/4	25 plts	2-3 plts
Corn	T		10	36	1 1/2 - 2	1 oz.	10' row
Cucumber	T		18-24	48	1/2 - 1	1/4 oz.	3 plts
Eggplant	T		18-24	3	1/4 - 1/2	25-34 plts	1-2 plts
Endive	HH	Y	8	18-24	1/4	1 pkt	3-5' row
Garlic	H	Y*	6	18-24	1	1 lb	3' row
Horseradish	H	Perennial	24	36	1	25 plts	
Kale	H	Y	18	24	1/4 - 1/2	1 pkt or 36 plts	3-5' row
Kohlrabi	HH	Y	6	18-24	1/4 - 1/2	1-2 pkt	3-5' row
Leek	H	Y	4-6	18-24	1/4 - 1/2	2 pkts	3' row
Lettuce, leaf	H	Y	4	18	1/4 - 1/2	2 pkts	6' row
Lettuce, head	H	Y	10	24	1/4 - 1/2	1 pkt or 50 plts	6' row
Muskmelon	T		18	48	1/2 - 1	1/4 oz.	2-3 plts
Mustard	HH	Y	3	24	1/4 - 1/2	1 pkt	2' row
Okra	VT		5	36	1 - 1 1/2	2 pkt	2' row
Onion, seed	H		3	24	1/2	1 pkt	1' row
Onion, sets	H		2-4	18-24	1 - 2	1/2 - 1 lb	10' row
Onion, plts	H		2-4	18-24	2 - 3	2 bundles	10' row
Parsley	HH		6	18-24	1/4 - 1/2	1 pkt	2-3 plts
Parsnip	H	Y	3	18-24	1/2	1/4 oz.	4' row
Peas	H	Y	1-3	24	1 - 2	1/2 lb	20' row
Peppers	T		18	36	1/4	36 plts	4 plts
Popcorn	T		10	36	1 - 1 1/2	1 oz.	10' row
Potato, Irish	HH		10-12	36	4	3 - 4 lb (60 pieces)	10-20' row
Potato, Sweet	VT		12	36	transplant	50 plts	10' row
Pumpkin	T		36	60-72	2	1 pkt	2-3 plts
Radish	H	Y	1	18	1/2	1/2 oz.	5' row
Rhubarb	H		36	48		14 plts	1 plt
Rutabaga	H	Y	4	18-24	1/4 - 1/2		5' row
Salsify			2	18-24	1/2 - 3/4	1/2 oz.	3-5' row
Spinach	H	Y	4	18	1/2	1/2 oz.	8' row
Spinach, New Zealand	T		12	36	1	1/4 oz.	3-5' row
Squash, summer	VT		24	48	1 - 2	1/8 - 1/4 oz.	2-3 plts
Squash, winter	VT		36	60-72	1 - 2	1/4 - 1/2 oz.	4 plts
Swiss Chard	HH	Y	6	24	1	1 oz.	3-5' row
Tomato, staked or caged	T		24-36	48	1/4 - 1/2	5 - 25	4 plts
Tomato, unsupported	T		36	72	1/4 - 1/2	15	4 plts
Turnips	H	Y	4	24	1/4 - 1/2	1/8 - 1/4 oz.	5' row
Watermelon	VT		24	72	1 - 1 1/2	1/2 oz.	2-3 plts

H = Hardy — tolerate freezing temperatures; sow seed or transplant hardened plants as early as ground can be worked in spring. **HH= Half-hardy** — tolerate light frosts; sow seed or transplant hardened plants a week or two before average date of last killing frost in your area. **T = Tender** — sow seed or transplant hardened plants when soil is warm and after average date of last killing frost in your area. **VT= Very Tender** — sow one to two weeks after the last average 32° F freeze.