

Vegetable seed germination temperatures

Vegetable seed germination is greatly dependent upon soil temperature. Other near-equal factors include seed vitality (the age of the seed), soil moisture, soil air, and soil conditions and workability.

This chart shows the range of soil temperatures needed for seed germination and the number of days to germination at optimum temperatures. A seed will germinate at temperatures between the minimum soil temperature and the optimum soil temperatures, but the number of days to germination will be greater.

Use this chart to determine if the soil temperature in the garden is right for seed starting the crop you want to plant. (Use a soil thermometer to take the soil temperature.)

Crop	Germination minimum soil temperature (°F)	Germination optimum soil temperature range (°F)	Germination maximum soil temperature (°F)	Days to germination at optimal temps
Asparagus	50	60-85	95	14-18
Bean, lima	60	75-85	85	4-10
Bean, snap	60	75-85	95	4-10
Beet	40	60-85	95	4-10
Broccoli	40	60-85	95	7-10
Brussels sprouts	40	60-85	95	3-10
Cabbage	40	60-85	95	5-10
Carrot	40	65-85	95	6
Cauliflower	40	65-85	95	4-10
Celery	40	60-70	95	10
Chinese cabbage	40	60-85	95	4-10
Collards	40	60-85	95	5-10
Corn	50	65-95	105	4-10
Cucumber	60	65-95	105	5-7

Endive	35	60-75	85	10-14
Garlic	35	65-85	95	7-14
Kale	40	60-85	95	5-7
Kohlrabi	40	60-95	105	5-10
Leeks	35	65-85	95	8-16
Lettuce	35	60-75	85	2-10
Muskmelon	60	75-95	105	4-10
Mustard	35	60-75	85	4-6
Okra	60	85-95	105	7-12
Onion	35	65-85	95	4-12
Parsley	40	65-85	95	5-6 weeks
Parsnip	35	65-75	85	5-28
Pea	40	65-75	85	5-7
Pepper	60	65-75	95	7-10
Pumpkin	60	85-95	105	4-10
Radicchio	35	60-75	85	5-7
Radish	40	65-85	95	4-10
Spinach	35	65-75	75	6-14
Squash	60	85-95	105	7-10
Swiss chard	40	65-85	95	7
Tomato	50	65-85	95	5-7
Turnip	40	60-95	105	3-10
Watermelon	60	70-95	105	4-10

