

Vegetable Seed Germination:

Optimum soil temperatures for germination and days to emergence where known

Bold type indicates optimum temperatures, yes = I think so; no = I don't think so; ? = I don't know; numeral=days to emergence

Crop	32°F (0°C)	41°F (5°C)	50°F (10°C)	59°F (15°C)	68°F (20°C)	77°F (25°C)	86°F (30°C)	95°F (35°C)	104°F (40°C)
Arugula	?	best	yes	yes	yes	?	?	?	?
Asian greens in general		yes	yes	yes	yes	best	yes	max	no
Asparagus	no	no	53	24	15	best 10	12	max 19	no
Beans (bush or pole)	no	no	no	min 16	11	best 8	6	max 6	no
Beans (fava, broad beans)	no	no	45°F/7°C min	54°F/12°C best	yes	yes	yes	?	no
Beans (lima)	no	no	no	min 31	18	6	max 7	no	no
Beets	no	min 42	17	10	6	5 best	5	5	no
Broccoli, incl. raab; Brussels sprouts	no	min 45	15	9	6	best 5	4	max	no
Cabbage	no	min	15	9	6	5 best	4	max	no
Carrots	no	min 51	17	10	7	best 5	6	9	no
Cauliflower	no	min	20	10	6	best 5	5	max 100°F (38°C)?	no
Celery, celeriac (<60F/15C at night)	no	min 41	16	12	best 7	yes	max	no	no
Chicory (Endive, Escarole, Radicchio)	yes	yes	yes	6	6	6	max	no	no
Chinese cabbage	no	no	min	yes	4	4	3	max	no
Chives	?	?	yes	best	best	?	?	?	?
Claytonia	?	?	best	?	?	?	?	?	?
Collards	?	yes	yes	yes	yes	4	yes	yes	?
Corn	no	no	22	12	7	4	4	best 3	max
Corn salad (mâche)	yes?	yes	yes	yes	best	yes?	no?	no	no
Cowpeas; Edamame					yes	yes	yes		
Cress	?	?	best	best	yes	yes	?	?	?
Cucumber	no	no	min	13	6	4	3	best 3	max
Eggplant (aubergine)	no	no	no	min	13	8	best 5	max	no
Fava Beans (Broad Beans)	no	no	45°F/7°C min	54°F/12°C min	yes	yes	yes	yes	no
Fennel (bulbs)	no	yes	yes	yes	best?	best?	yes	yes	no
Kale	?	yes	yes	yes	yes	4	4	yes	?
Kohlrabi	no	yes	yes	yes	yes	best 4	yes	no	no
Leek		yes	yes	yes	best 7	yes	max	no	no
Lettuce	49	15	7	4	3	best 2	3	no	no
Lima beans	no	?	?	31	18	best 7	7	no	no
Muskmelon	no	no	no	min	8	4	best 3	best	max 100°F (38°C)?
Mustard greens	?	yes	yes	yes	best	yes	yes	?	?
Okra	no	no	no	min 27	17	13	7	best 6	max 7
Onions	136	31	13	7	5	best 4	4	13	no?
Pak Choy/Pac Choi/Bok Choy		yes	yes	yes	yes	best	max	no	no
Parsley	no	min	29	17	14	13	12	max	no
Parsnips	172	57	27	19	best 14	15	32	no	no
Peanuts	no	no	?	?	yes	yes	yes	?	?
Peas	no	36	14	9	8	best 6	6	max	no
Peppers	no	no	no	min 25	13	8	best 8	max 9	no
Pumpkin	no	no	no	min	yes	yes	best	best	no?
Quinoa	?	?	?	yes	yes	?	?	?	?
Radish	no	29	11	6	4	4 best	3	max	no
Red Orach	?	yes	best	yes	?	?	?	?	?
Sorrel	?	?	yes	yes	best	yes	?	?	?
Spinach	63	23	12	7	best 6	best 5	max 6	no	no
Squash	no	no	no	min	yes	yes	yes	best	max
Swiss Chard	no	yes	yes	yes	yes	yes	best 4	max	no
Tomatoes	no	no	min 43	14	8	6	best 6	max 9	no
Turnips, Rutabagas	no	min 9	5	3	2	1 best	1	1	3
Watermelon	no	no	no	min	12	5	4	best 3	max