

Soil Temperature Conditions for Vegetable Seed Germination

► When warm weather arrives we're eager to begin cultivating this season's crops. However, it is soil temperature rather than air temperature that controls seed germination. Planting at the optimal temperature for a specific crop is the best practice to ensure production of hearty seedlings.

Soil Temperature Conditions for Vegetable Seed Germination

| Vegetable | Minimum (°F) | Optimal Range (°F) | Optimum (°F) | Maximum (°F) |
|------------------------|--------------|--------------------|--------------|--------------|
| Asparagus | 50 | 60–85 | 75 | 95 |
| Bean, lima | 60 | 60–85 | 85 | 85 |
| Bean, snap | 60 | 65–85 | 80 | 95 |
| Beet | 40 | 50–85 | 85 | 85 |
| Cabbage | 40 | 45–95 | 85 | 100 |
| Carrot | 40 | 45–85 | 80 | 95 |
| Cauliflower | 40 | 45–85 | 80 | 100 |
| Celery | 40 | 60–70 | 70 | 85 |
| Chard, Swiss | 40 | 50–85 | 85 | 95 |
| Corn | 50 | 60–95 | 95 | 105 |
| Cucumber | 60 | 60–95 | 95 | 105 |
| Eggplant | 60 | 75–90 | 85 | 95 |
| Lettuce | 35 | 40–80 | 75 | 85 |
| Muskmelon (cantaloupe) | 60 | 75–95 | 90 | 100 |
| Okra | 60 | 70–95 | 95 | 105 |
| Onion | 35 | 50–95 | 75 | 95 |
| Parsley | 40 | 50–85 | 75 | 90 |
| Parsnip | 35 | 50–70 | 65 | 85 |
| Pea, English | 40 | 40–75 | 75 | 85 |
| Pepper | 60 | 65–95 | 85 | 95 |
| Pumpkin | 60 | 70–90 | 90 | 100 |
| Radish | 40 | 45–90 | 85 | 95 |
| Spinach | 35 | 45–75 | 70 | 85 |
| Squash | 60 | 70–95 | 95 | 100 |
| Tomato | 50 | 70–95 | 85 | 95 |
| Turnip | 40 | 60–105 | 85 | 105 |
| Watermelon | 60 | 70–95 | 95 | 105 |

Soil temperatures should be taken by inserting a soil thermometer 3 to 4 inches deep into the soil surface and noting temperature. Soil thermometers are available from garden centers, feed and seed stores, and many garden supply catalogs. Soil temperatures should be consistent for several days before seeds are sown to ensure that the seeds are being exposed to optimal temperatures for germination.



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