

PART 1 · SOIL TEMPERATURE

Seeds read the soil, not the calendar

A seed germinates when the soil around it is warm enough. Below the minimum it sits there and often rots. In the optimum range it comes up fast and strong. A \$10 soil thermometer is the most useful tool you can buy.

Crop	Minimum °F	Optimum range °F	Maximum °F
Lettuce	35	40–80	85
Spinach	35	45–75	85
Onion	35	50–95	95
Pea	40	40–75	85
Radish	40	45–90	95
Carrot	40	45–85	95
Beet, chard	40	50–85	95
Cabbage, kale, broccoli	40	45–95	100
Parsley	40	50–85	90
Tomato	50	60–85	95
Sweet corn	50	60–95	105
Bean	60	60–85	95
Cucumber	60	65–95	105
Pepper	60	65–95	95
Squash, zucchini	60	70–95	100
Pumpkin	60	70–90	100
Watermelon	60	70–95	105

Germination data from J.F. Harrington's studies, as reproduced in many university Extension vegetable guides.

HOW TO MEASURE

- 1 Push a soil thermometer **4 inches** deep (2 inches for small seeds such as lettuce and carrots).
- 2 Read it in the **morning**, when soil is coldest. Afternoon readings flatter you by several degrees.
- 3 Take readings **3 days in a row**. Plant when all three are at or above the crop's minimum, and ideally in its optimum range.

WARMING COLD SOIL

- Raised beds and containers warm up 1–2 weeks earlier than ground soil.
- Clear plastic laid on moist soil for a week can raise its temperature noticeably. Remove it before planting.
- Wait to mulch warm-season crops until the soil has warmed. Mulch keeps soil cool.

GERMINATION TEST

Not sure if old seed is still good? Roll 10 seeds in a damp paper towel, seal it in a bag, and keep it somewhere warm. Count the sprouts after 7–10 days. 8 sprouts means 80% germination: sow a little thicker. 3 or fewer: buy new seed.



FREE SAMPLE PAGE · GROW YOUR OWN FOOD

Want the whole 30-day plan?

This soil-temperature chart is page 6 of a 29-page printable workbook that takes you from bare ground to your first harvests.

- ✓ Planting timing chart for 18 crops, counted from your own frost date
- ✓ 18-crop field guide: sun, spacing, days to harvest
- ✓ Diagnosis table for 15 common plant problems
- ✓ A day-by-day 30-day plan, field log and harvest guide

Get the full workbook on Etsy →

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