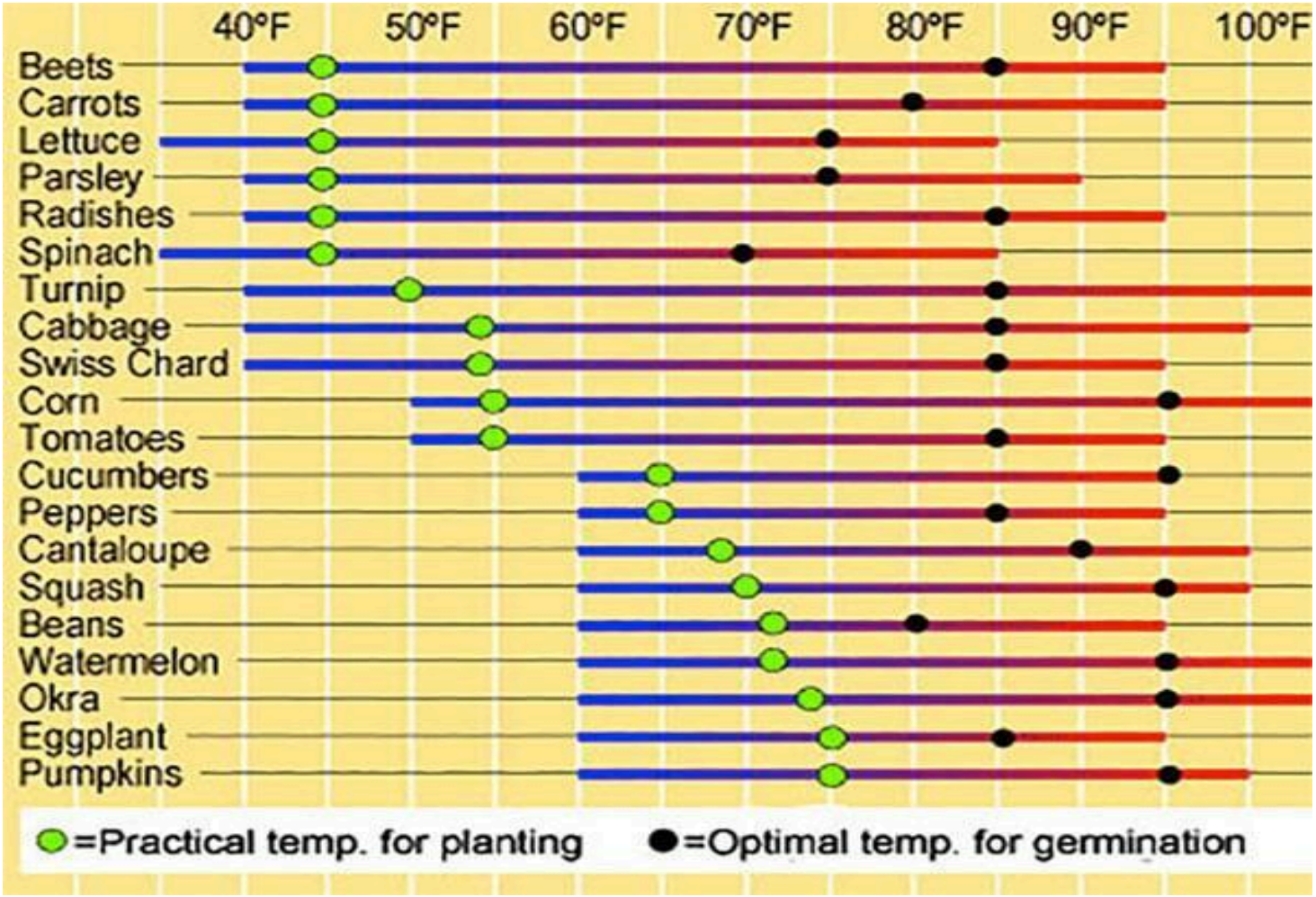

If you want to get your vegetable garden off to a fast start, you need to plant your seeds in soil that's warm enough to ensure good germination.

For each type of seed — beans, carrots, lettuce — there is a range of temperatures at which that particular type of seed will germinate (see the chart at right). Beans, for example, will only germinate if the soil temperature is above 60 degrees F and no warmer than 95 degrees F. You can use a Compost Thermometer to measure soil temperatures.

There is also an "optimum temperature" at which seeds germinate most readily. In the case of beans, that optimum germination temperature is 80 degrees F. In a perfect world, you would wait for the soil in your garden to be 80 degrees F before planting your beans. At that temperature, you could expect nearly every seed to germinate.

But when spring comes, we are eager to get our gardens planted, and we don't want to wait around until midsummer to plant beans. In cold climates, the soil temperature in our gardens may never reach 80 degrees, and even if it did, by that time the crops wouldn't have a chance to mature before frost. Hot-climate gardeners need to get their crops planted early so they will mature before the heat of midsummer.

So how does a gardener know when the soil is warm enough to plant? Dr. Jerry Parsons, Extension Horticulturist at the Texas Agricultural Extension Service, has identified what he calls a "realistic" soil temperature for germination. This is a soil temperature at which gardeners can expect good germination and strong early growth. Germination rates may be at 70 percent rather than 100 percent, but you can just sow the seeds a little more thickly.

The chart above indicates the minimum and maximum germination temperature ranges for each vegetable crop. The location of the black dot indicates the optimum germination temperatures (according to the University of California at Davis). The green dot is the "realistic" soil temperatures that Dr. Parsons recommends to ensure good germination in the garden. For practical purposes, you can start planting as soon as the soil reaches this temperature.