

Chapter Two

Weather For Art Thou

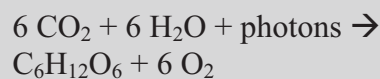
Plants get nutrients from the soil, but not their energy. The real food for the plant comes from electromagnetic radiation emanating from the sun, using an amazing metabolic pathway called photosynthesis, which converts light energy into chemical energy, specifically triose phosphates. These in turn can be rearranged into sugars, more complex carbohydrates or cellulose, whatever the plant needs.

Every living organism ultimately relies on this energy for survival by ingesting plants or plant-eaters, with the exception of some sulfur-sucking, bottom-dwelling scum in the ocean. I figure this latter fact might be useful for my readers who are still in high school.

He: “Hey, Babe, you’re not mad about that two-timing thing, are ya?:”

She, shaking her head slowly in mock sympathy: “You can’t help it. A guy like you could starve if you get too far away from your

The condensed version of the photosynthetic reaction is:



In English: carbon dioxide, water and light energy convert to glucose and oxygen.



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hydrothermal vent.”

He: “Yeah, that’s...huh?” She walks away with her head held high while the Science Nerds at the next lunch table shoot milk out of their noses and roll on the floor.

Ah, well, maybe not. Moving on, the upshot of all this is that your vegetable crops need sun, lots of it. Less sunlight means less food to the plant, which means less food for you. Most plants do best with a minimum of six hours a day of direct exposure.⁸ DO NOT attempt to dig a plot without first making sure the area can support vegetables with adequate sunlight. Too much shade cannot be corrected with more fertilizer, water, scarecrows, music, rain dances, crystal energy or anything else. It’s called a “farmer’s tan” for a reason. Also, factor in how tall plants will grow and if they’d effectively shield other plants from adequate sunlight, then plant the short ones where they won’t be shaded.

If you’ve looked around and it’s not possible to grow vegetables anywhere on your property, you have a few other possibilities:

- Neighbors’ yards
- Vacant lots, although you should try to contact the owner for permission
- Community garden plots, which also often provide free water, advice and seed
- Simulate the sun’s electromagnetic energy with special lights, called grow lights. These used to be hideously expensive, but now with LED technology, they’re getting much cheaper to purchase and operate, and might one day soon be economically viable.
- Have you considered ripping out those hedges? They’re pretty and all, but you can’t eat them.⁹

⁸ I’ve read that asparagus can get by on just four, but that doesn’t fit my personal experience.

⁹ For example, one on-line offers a slightly-larger-than square foot light for about \$40, with an expected lifetime of 50,000 hours, then purports that it only requires 13.8 watts to run, which means it would run for a full 3 days before it even burned

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- Have you also considered gardening in containers? You really can grow an amazing amount of food, with no weeds and very little water this way.

The other vital part of the growing equation is to know your local climate. “Climate” encompasses everything from lowest and highest temperatures, day length by date, average rainfall, humidity, and so forth. Specific crops need to grow in a particular temperature range. Plant too early, and some seeds won’t even sprout in the cold weather, but they will get waterlogged and ruined while they’re waiting. Plant a cool-weather crop in the late spring, and it’s likely to bolt¹⁰ and go bitter in the hot summer sun before it’s of any use to you. Plant a warm-weather crop in the early autumn, and watch it sprout all right, then wither and die with the first cold snap.

Some plants are just a bad idea for your climate altogether. I never like to be the bearer of bad news, but if you live in North Dakota, backyard pineapple is not an option.¹¹ I understand cabbage grows to the circumference of hula hoops in Alaska, but when I tried to cultivate them in my moderate temperatures, the heads took about nine months to grow to the size of my fist. I can only imagine cabbage in Florida gets mistaken for Brussels sprouts.

The amount of sun in various parts of the intended space is easy enough to figure out; just stand outside at various times of the day and note where the shade travels. Note that the sun will be lower in the sky on a winter day than on a summer day, so try to get a sense of where the light will fall during the actual growing season. Determining climate is a little tougher, since it’s based on average high and low temperatures throughout the year.

I have information that will, momentarily at least, make you feel good about paying taxes. The federal government has compiled

up a single kilowatt. At \$.30 per kilowatt hour, it would cost about \$3.57 per month in electricity and purchase price. Can you grow food for more than that, with the light? Depending on the crop, yes.

¹⁰ To “bolt” is to send up a shoot with a flower stalk. Because so much energy goes into that effort, the rest of the plant usually turns bitter and tough, especially lettuce and spinach.

¹¹ This is unless you want to devote enormous amounts of time and money to tend the trees in a heated, humidified greenhouse, of course.

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a wonderful interactive map that provides information about the climate in every part of the entire United States, Canada and Mexico. Climate zones are defined by their



The USDA Plant Hardiness Zone Map is available at:
<http://www.usna.usda.gov/Hardzone/ushzmap.html>

average annual minimum temperature, and then numbered. You need to learn your USDA Plant Hardiness Zone, because these are the gold standard by

which most seed companies reference their recommendations for particular vegetables.

But wait, private enterprise does one better. Sunset Magazine's Garden Climate Zones detail not only the lowest low temperatures you can expect in your area, but inform as to what



To see the Sunset's Garden Climate Zones, go to:
<http://www.sunset.com/sunset/garden/article/0.20633.845218.00.html>

kinds of plants do best outside the whole year through. Be sure to make a note of that zone as well, since gardening forums online often remark on

both the USDA zones and Sunset's.

Both of the above resources are good for general information and knowing where the "bottom" is in temperatures for your area, but it's also useful to be able to plan, as much as anyone can, what to plant and when. For instance, if I want tomatoes, and know that they prefer weather well past the danger of frost, and nighttime temperatures above 50F/10C degrees, when can I start them indoors a few weeks early and then transplant them outside? That question is a bit murkier to answer, but here are some resources:

Seed Packets. Read these for at least some cursory instructions on when to plant the crop outside. Usually these will guess at how warm your temperatures will be with phrases like "plant six weeks after last frost date." This isn't very accurate, but if you're in the zone specified on the packet and that's all the time you have, you'll probably come out all right.

Your neighbors. Chat up the old-timers with the big blooming yards. They're never wrong.

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Annual Averages. The National Weather Service keeps statistics on monthly average temperatures as well as last year's data on its website. That's at nws.noaa.gov. Look in the Monthly Temps in the Climate section. There's also useful information at Intellicast.com. Enter your zip code and you can drill down from there to see the Historic Averages for your area. Of course, there's no guarantee that this won't be the Year of the Freak August Frost, but at least you're gambling with the house odds, so to speak.

Forecasts. Weather websites will often make predictions for upwards of a few months out. Be aware that these are just educated guesses.

Farmer's Almanac. I admit I've never bought one, but some people swear by it. Their website touts an eighty percent accuracy rate. Run an Internet search to find out more.

There'll be more on planning later, but the purpose in this chapter is to emphasize the importance of weather in having a vegetable garden that will produce enough food cheaply for your family to be worth the effort you'll have to put into it. The only way to minimize effort and expense in this and any endeavor is to first figure out the best way to do it. A little knowledge about your sunlight and temperatures will help you choose plants well suited for your circumstances. Failure to cooperate with your weather patterns in choosing what and when to plant will just set you up for more work, more capital outlay, more pests and other blight, and less productivity right from the start. So take a little time to do the research now, and you'll save yourself a headache down the line.