

# Recipes for Disaster

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## Preface

If there is one thing humanity takes for granted, it's our survival. While survival has drastically different meanings depending who you ask and where you are in the world, many millions around the world live day-to-day, knowing where their food is going to come from and what they will and will not have access to. The fact of the matter is that most of the world is not prepared for a sudden, drastic change to how they survive. The average American household not only *over*-consumes, especially in regard to proteins and grains, but is only equipped with enough food to last on the order of days to a few weeks.<sup>1</sup> This system not only reflects a fragile reliance on the continued function of agriculture, food supply chains, and grocery stores, but indicates that the average American is not prepared for a potential doomsday scenario. While statistically unlikely, mounting evidence suggests catastrophic doomsday scenarios are possible and could take a variety of forms. The future stability of systems we have come to rely on remains uncertain in many ways, highlighting a need for some sort of security. In this book, we hope to provide the reader with hope; confidence that no matter what happens, they will be prepared. We will examine two of the most likely and disastrous potential doomsday scenarios and will provide answers to the questions: what should I stock up on just in case? What will I have access to after doomsday? Am I able to make or grow things I'll need myself? Once I have my supplies, what will I be able to cook, and how will I cook it? These questions might be daunting at first, but by following our recipes for disaster, you'll be the most prepared home cook no matter what the world throws at you.

### Predicting the Unpredictable

How will we know doomsday when it's here? Mass panic? Fire raining from the sky? The arrival of an alien armada? Or will the end creep up slowly, subtly, dooming us before we

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<sup>1</sup> US Department of Agriculture "Food Availability and Consumption." *USDA ERS - Food Availability and Consumption*,  
[www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-availability-and-consumption/](http://www.ers.usda.gov/data-products/ag-and-food-statistics-charting-the-essentials/food-availability-and-consumption/).

even know it? There is no simple answer to this, but there are a few things we know for certain. Climate models can predict with some degree of certainty the amount of warming that will occur as a result of anthropogenic greenhouse gas emissions, how far sea levels will rise and what areas will be most affected, and how severe weather events will become as the climate becomes increasingly unstable. Similarly, our understanding of global circulation patterns and fallout behavior informs our predictions regarding nuclear winter, the spread of radiation, and what urban centers are most likely to be targeted in the event of a nuclear war. These understandings allow us, normal people, to make informed decisions about what we need to do to survive. In this book we have decided that the most potentially catastrophic and probable doomsday scenarios are a nuclear apocalypse and extreme environmental degradation. Consistent nuclear armament since the 1940s, despite peaking in the 1980s, remains a serious concern as nuclear weapons become exponentially more powerful and several nations maintain the destructive potential to send the planet into a nuclear winter. Similarly, the annual increases in fossil fuel consumption continue to solidify the rise in global mean temperatures above the 2.5°C mark, with the most optimistic predictions putting us on track to experience warmer temperatures, threats to food supplies, increased frequency of catastrophic weather events, and significant new pressures on our daily lives. While there are many other scenarios by which the survival of humanity could be threatened, we see these as the most likely and most damaging, and ample preparation for these scenarios will likely be sufficient in the event of an alternative form of doomsday.

### **Intended Audience**

In order to simplify our discussion, we will be operating under the assumption that the reader has ready access to pre-disaster food, water, and shelter, and lives in a nation where they would have the means to acquire supplies, ingredients, and tools necessary to effectively survive a doomsday scenario. We understand that large populations will thus be excluded from this discussion, especially in less-developed nations where access to consistent food and drinking water is already limited. As a result, our guidelines need not be followed completely, and we encourage any reader to adhere to them in accordance with their willingness and ability to do so. Any preparation is better than the alternative.

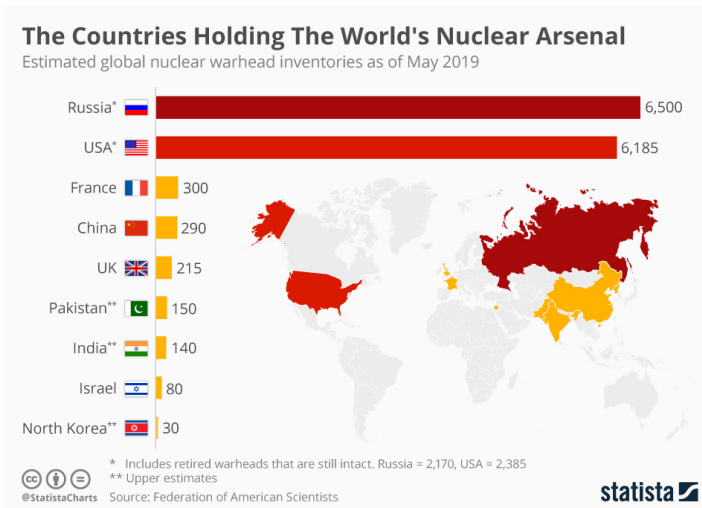
### **Worst Case Scenarios**

To make this book most effective, we believe in the importance of over-preparation. It is difficult to predict exactly how severe an end of the world scenario will be, especially with countless unknowns complicating our models. As such, we will be taking each scenario to its extreme, highlighting the disruptive potential of each and assuming the worst. While it is very likely mitigation efforts and global preparation will lessen the severity of these scenarios, the lack of concrete information for how this will occur leads us to encourage over-preparation, such that no matter what happens, you will be equipped to survive.

## **1. Nuclear Disaster:**

The worst case for a nuclear disaster is any use of nuclear weapons at all. Current understanding of the nuclear threat hinges on the fact that if a weapon is used, retaliation is inevitable, and will escalate to the level of a global nuclear conflict. The only nuclear weapons used in warfare thus far were the “Fat Man” and “Little Boy” bombs dropped on the Japanese cities of Nagasaki and Hiroshima in 1945, with estimated strengths of 22 kilotons (kt) and 15 kt of TNT respectively. These weapons, while devastatingly powerful, represent only a fraction of the modern destructive potential of atomic weapons. The current largest devices are onboard the US Trident and Russian R-36 intercontinental ballistic missiles (ICBMs) with estimated yields of

500-800kt including significant uncertainty. Some devices such as the US B38 warhead have maximum yields of 1200kt or 1.2 megatons, 80 times more powerful than the bomb dropped on Hiroshima. The destructive potential of these weapons is too vast to comprehend, and the lack of understanding of the long term effects of nuclear detonations, especially if several occur, makes it difficult to assess whether a nuclear war would be survivable at all.<sup>2,3,4</sup>



Nuclear winter refers to a scenario in which atomic blasts result in widespread fires that

transport many tons of particulate matter into the atmosphere. These materials would reflect much of the incoming solar radiation that warms our planet, effectively reversing the greenhouse effect. This could lead to a significant drop in temperature, and reduced sunlight would be disastrous for the photosynthesis-driven primary productivity that sustains life on Earth. Reduced oxygen production and high levels of radiation could make the surface unliveable, and nuclear winter would lead



<sup>2</sup> Moore, Colleen. “Today's Nuclear Weapons Are Orders of Magnitude More Powerful.” *Beyond the Bomb: A Grassroots Movement to Stop Nuclear War*, 6 Aug. 2019, [beyondthebomb.org/hiroshima-nagasaki-todays-nuclear-weapons-are-orders-of-magnitude-more-powerful/](https://beyondthebomb.org/hiroshima-nagasaki-todays-nuclear-weapons-are-orders-of-magnitude-more-powerful/).

<sup>3</sup> “An Existential Discussion: What Is the Probability of Nuclear War?” *Bulletin of the Atomic Scientists*, 22 Mar. 2021, [thebulletin.org/2021/03/an-existential-discussion-what-is-the-probability-of-nuclear-war/](https://thebulletin.org/2021/03/an-existential-discussion-what-is-the-probability-of-nuclear-war/).

<sup>4</sup> Bronson, Rachel, and Sharon Squassoni. “More Hands Needed on the Nuclear Football.” *TheHill*, The Hill, 24 Jan. 2021, [thehill.com/opinion/white-house/535527-more-hands-on-the-nuclear-football?rl=1](https://thehill.com/opinion/white-house/535527-more-hands-on-the-nuclear-football?rl=1).

to mass collapse of crop and livestock yields, resulting in potentially world-wide famine and disease. Global circulation patterns would carry radioactive material across the Earth, poisoning livestock, crops, and water supplies, effectively forcing humanity underground. Most recent studies on nuclear winter scenarios cite that significantly fewer detonations are needed to cause catastrophic climatic effects than previously thought.<sup>5</sup> The aggregation of particulate matter (collectively referred to as “black carbon”) in the atmosphere to larger particles is a major factor in the climatic effects of nuclear detonations. Black carbon will contribute to global cooling by blocking sunlight, but over the longer term (although likely less than 2 years) these particles will greatly contribute to ozone depletion and the greenhouse effect, resulting in a major increase in atmospheric temperatures. The net effect of these processes will be a highly unstable climate, significant fluctuation, and general inhospitality of the planet’s surface. The residence time of black carbon in the atmosphere and the lagging recovery indicates that the effects will persist for more than 10 years after the initial blasts, requiring humanity to become accustomed to a life lived primarily underground.<sup>6</sup>

In this book, when addressing nuclear disaster, we assume full-scale governmental and societal collapse, including termination of existing supply chains, failure of global power grids, and loss of function of long-range communications technology. In this scenario, survivors will be required to be self-reliant, making use of tools and supplies from prior to doomsday and producing their own food, clean water, and energy once initial supplies are exhausted.

## 2. Climate Catastrophe:

In the worst case climate scenario, we considered a rise in temperature of 4°C or greater. Using RCP 8.5, or the “business as usual” model in which few to no measures are taken to reduce greenhouse gas emissions, it has been predicted that most of the world’s large land masses will be four to seven degrees celsius warmer by 2100, with even worse warming in the winter months. As our planet warms, more than 70 percent of coastlines will see sea-level rise greater than 0.66 feet. This will increase coastal flooding, beach erosion, salinization of water supplies and have a huge impact on our ecological system. This impact will be worse for people living in the Pacific “Ring of Fire” as this area is already prone to earthquakes greater than M7.5, tsunamis, and volcanic eruptions. As sea levels rise, we will also experience a shortage of freshwater and an increase in heat waves., which will make attempts to cool down more difficult and costly, putting stress on the powergrid. Forest fires, like those already occurring annually in California, will become more widespread and severe. Moreover, as people attempt to migrate to cooler, safer and less impacted areas, these areas will be prone to overcrowding, riots, and

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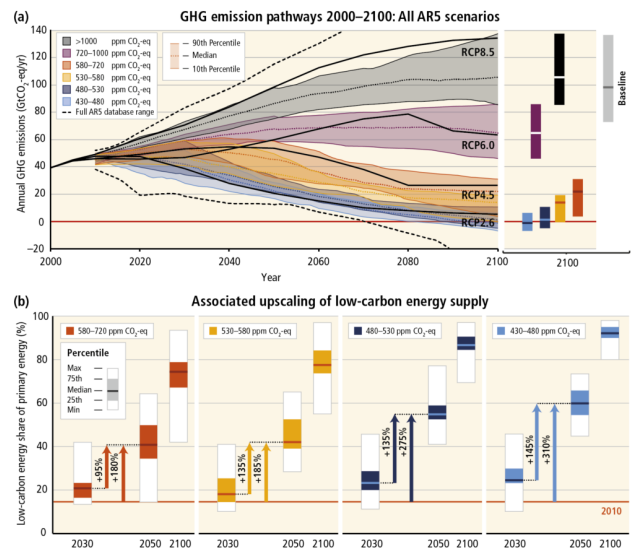
<sup>5</sup> Coupe, Joshua, et al. “Nuclear Winter Responses to Nuclear War Between the United States and Russia in the Whole Atmosphere Community Climate Model Version 4 and the Goddard Institute for Space Studies ModelE: Semantic Scholar.” *Undefined*, 1 Jan. 1970, [www.semanticscholar.org/paper/Nuclear-Winter-Responses-to-Nuclear-War-Between-the-Coupe-Bardeen/560033106c2d599bcace3ce4cb6c67d5b713ec50](http://www.semanticscholar.org/paper/Nuclear-Winter-Responses-to-Nuclear-War-Between-the-Coupe-Bardeen/560033106c2d599bcace3ce4cb6c67d5b713ec50).

<sup>6</sup>US Government. “Nuclear Explosion.” *Nuclear Explosion* | *Ready.gov*, [www.ready.gov/nuclear-explosion](http://www.ready.gov/nuclear-explosion)

disease. Violence, runs on supermarkets, and hoarding of food items, supplies, and nonperishables will be prevalent. With a changing climate comes natural disasters with the power to destroy homes and businesses, incite mass panic, stranding, or inequality in food distribution, and cripple the healthcare system. With these looming threats, it is vital that we be prepared for the worst<sup>7,8</sup>.

Studies on the relationships between climate change and food yields and security have revealed some frightening eventualities. According to RCP 8.5 models, agricultural production is expected to fall by up to 35% by 2100 due to salinization of farmland, higher ozone levels, and water scarcity<sup>9</sup>. Significant population growth (expected to reach 10 billion by 2050) will bring with it increased food demand, but rising CO<sub>2</sub> levels, further degradation of the ozone layer from air conditioner-derived pollutants, droughts, extreme weather events, will make it much more difficult to meet this demand. Livestock yields and the availability of meat and dairy are also expected to fall as maize production, much of which is used to feed livestock, will be greatly impacted by climate change. A 2018 study published in the *Proceedings of the National Academy of Sciences of the US* found that if temperatures rise by 4°C, maize production is likely to be cut by half<sup>10</sup>. The study looked at the effects on other forms of produce as well, finding similar fragility. Limited space for agricultural production, especially as populations rise, will further stress food supply lines.

We expect significant weaknesses in current supply chains to become increasingly apparent over the coming years, and as such we will assume that one's access to food in a climate crisis will be largely or entirely dependent on one's ability to grow their own food. In this book, we assume supermarkets to be a luxury of the past and that readers will have the means to develop their skills in farming livestock and produce to meet their needs. In hot climates like those expected under RCP 8.5, certain produce is expected to perform better than others and water will be scarce. Thus, we take inspiration from Mediterranean methods of growing and cooking, as the climate there has historically been hot and dry, but this does not stop countries in this region from producing some of the most delicious food in the world.



<sup>7</sup> “Summary for Policymakers.” *Global Warming of 1.5 °C*, www.ipcc.ch/sr15/chapter/spm/.

<sup>8</sup> McKibben, Bill. “Global Warming's Terrifying New Math.” *Rolling Stone*, Rolling Stone, 25 June 2018, www.rollingstone.com/politics/politics-news/global-warmings-terrifying-new-math-188550/.

<sup>9</sup>25, Renee Cho [July, et al. “How Climate Change Will Alter Our Food.” *State of the Planet*, 11 Jan. 2019, news.climate.columbia.edu/2018/07/25/climate-change-food-agriculture/.

<sup>10</sup>Scheelbeek, Pauline F. D., et al. “Effect of Environmental Changes on Vegetable and Legume Yields and Nutritional Quality.” *PNAS*, National Academy of Sciences, 26 June 2018, www.pnas.org/content/115/26/6804.

## Nutrition Requirements

Although we won't have the means to meet all the nutrition requirements, we still need to balance our diets with sufficient vitamins, minerals, and all macronutrients. Since we are already focusing on the more developed countries, we expect that most of the population will not become malnourished immediately. However, we do expect that pregnant women and children will need to meet normal nutrition requirements for growth and development.<sup>11</sup>

Especially in a doomsday scenario, it is also imperative that we prioritize our nutrients. For example, while a vitamin C deficiency may increase fatigue and worsen tissue repair, it is still more important to consume fats and carbohydrates so that we can store glycogen in our muscles for energy. We need this energy because in a crisis situation, we won't have enough water to begin with. If we don't consume sufficient carbohydrates, our bodies will enter ketosis, which is when the body burns your fat and the products are excreted through urine. Due to this water loss, our bodies will be longing for more water, which would put us in a vicious cycle of being hungry and thirsty.

Another macronutrient essential to our diets is protein. We need proteins for body growth and repair, which is particularly important for our pregnant women and developing children. Proteins are tricky. It may be easy to look at the table below and deduce that as long as you consume 35g of protein from any food, it will be sufficient. But with proteins, that is usually not the case. There are complete and incomplete proteins. A complete protein is an animal protein that contains all the essential amino acids, and an incomplete protein is a plant protein that is missing at least one of the essential amino acids. It would be ideal to balance these proteins so that we are never missing too many essential amino acids. Yet, in our nuclear fallout, it would be difficult to obtain many complete proteins, so we may have to consume more incomplete proteins. Improvising is necessary especially in these situations; we believe that any combination of complete and incomplete proteins is better than a protein deficiency.

The table below depicts the minimum nutrition requirements for the average adult after the nuclear war in the 1950s. This table has three columns, but for our purposes, we should only focus on the first column since this is the "emergency period" (the other columns represent the period after reconstruction).

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<sup>11</sup>Franz, K. B., and C. H. Kearny. "Maintaining Nutritional Adequacy during a Prolonged Food Crisis. [Basic Foods for Post-Nuclear Attack Use]." *Maintaining Nutritional Adequacy during a Prolonged Food Crisis. [Basic Foods for Post-Nuclear Attack Use] (Technical Report)* | OSTI.GOV, 1 Aug. 1979, [www.osti.gov/servlets/purl/5968023](http://www.osti.gov/servlets/purl/5968023).

Table 1. Recommended minimum allowances of nutrients for shelter survival of the general population  
As consumed per person per day

Nutrients	Planning periods		
	I (up to 2 weeks)	II (up to 8 weeks)	III (over 8 weeks)
Water, quarts	2 <sup>a</sup>	2 <sup>a</sup>	4 <sup>a</sup>
Energy, kcal	1500	1800	2000 <sup>b</sup>
Protein, g	35	50	65 <sup>c</sup>
Carbohydrate, g (minimum)	150	175	185
Fat, g (maximum)	83	100	110
Sodium chloride, g	3 <sup>a</sup>	3.6 <sup>a</sup>	4 <sup>a</sup>
Calcium, g		0.3	0.4
Thiamin, mg		0.5	0.6
Vitamin C, mg		10	30
Niacin, mg		5	8
Riboflavin, mg		0.7	1.0
Vitamin A, IU <sup>d</sup>			

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### \*Disclaimer\*

While adherence to advice given in *Recipes for Disaster* is likely to exponentially increase your chances of surviving an end of the world scenario, we do not guarantee survival. The authors are not liable for any disease, illness, or death that may result from improper adherence to guidelines in this book. **Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions. Survive at your own risk.**

## Chapter 1: General Disaster Preparedness

There are a number of precautions you can take no matter what form the end of the world takes. Whether a nuclear annihilation, an unbearable climate, a deadly pandemic, or a series of infrastructure-crippling cyber attacks, there are many steps you can take to ensure you are ready for anything, or at least readier than those who did not expect it. In this passage we will provide you with a general list of supplies and foods that will prove useful in any survival situation. We recommend stocking up on these items well in advance of any potential doomsday scenario, especially if they are nonperishable. Food production and grocery supply chains are fragile and will be subject to panic-induced runs whenever the news of a disaster breaks. For this reason, we recommend stocking up ahead of time. Our non-specific list of food items and supplies is as follows:

<sup>12</sup>Franz, K. B., and C. H. Kearny. "Maintaining Nutritional Adequacy during a Prolonged Food Crisis. [Basic Foods for Post-Nuclear Attack Use]." *Maintaining Nutritional Adequacy during a Prolonged Food Crisis. [Basic Foods for Post-Nuclear Attack Use] (Technical Report)* | OSTI.GOV, 1 Aug. 1979, www.osti.gov/servlets/purl/5968023.



## Consumables:

- White rice, pasta, beans,
- Dehydrated fruits or vegetables
- High calorie items
- Jugs of water
- Non-perishable, pasteurized milk
- Canned items; juice, meats, vegetables, grains
- Peanut butter and honey
- Protein/granola bars
- Baby formula (ready-to-feed, doesn't need water)
- Vinegar
- Cooking oil
- Flour and sugar
- Seeds; chia, sunflower, etc.
- Comfort foods; Coffee and tea, alcohol, hard candies, cereals
- Bouillon cubes and seasonings
- Baking powder, baking soda
- Salt, pepper, dried herbs
- Nuts; almonds, peanuts, cashews, etc

## The Survivor's Spice Rack:

(Optional but highly recommended)

- Allspice
- Aleppo Pepper
- Basil
- Black peppercorns
- Bay Leaves
- Barbeque Sauce
- Brown sugar
- Cane sugar
- Caraway
- Cardamom
- Cayenne pepper
- Celery salt
- Chili powder
- Cinnamon; ground, sticks
- Cloves
- Cocoa powder
- Coriander
- Cream of tartar
- Cumin
- Fennel seeds
- Five spice
- Garam masala
- Garlic; powder, salt
- Ground ginger
- Lemongrass
- Lemon pepper
- Mustard powder
- Nutmeg
- Onion powder
- Oregano
- Paprika
- Parsley
- Rosemary
- Saffron
- Sage
- Sea salt
- Tarragon
- Thyme
- Vanilla; extract, beans
- Zaatar



### Supplies, tools, cookware, and miscellaneous:

- Can opener
- Matches & waterproof container,
- Tinder, fire extinguisher
- Radio
- Cash
- First-aid kit
- Mess kits, knives, utensils, reusable rags
- Multitool and/or toolbox
- Toiletries
- Mortar and pestle
- Pliers or potholders to grab hot metal
- Saucepans, small and large, w/ lids
- Frying pan, cast iron pan, and/or saute pan
- Spatula; rubber and metal
- Wooden spoons
- Tongs
- Whisk
- Garlic press
- Ladle
- Grater
- Slotted spoon
- Vegetable peeler(s)
- Sieve/strainer
- Measuring cups/spoons
- Flashlight with batteries
- Solar-powered lantern
- Cutting board
- Potato masher
- Kettle
- Map
- Rope/twine
- Pet supplies
- Road flares or flare gun with ammunition
- Water purification tablets, steri-pens,
- Crock pot
- Bleach, composting toilet, cleaning/disinfecting supplies
- Charcoal
- Toilet paper, paper towels, hygiene products, etc.
- Soap, bodywash, shampoo, deodorant, etc.<sup>5</sup>

## Chapter 2: Essential Skills & Tools

### How to start a fire:



### 1. Swedish Fire Log

Best for:

- If you have small amount of logs
- Use as a stove

You will need:

- You will need a chainsaw or some other tool for cutting wood.
  - Chainsaws require access to gas or electricity
- A lighter/match

How to make it:

- Step 1 | Find the thickest log available and place it upright like a drum.
- Step 2 | Hold it vertically in the campfire ring and make chainsaw cuts beginning at the top, as if you were cutting a pie into four wedges<sup>13</sup>
- Step 3 | Be sure to leave six inches from the base of the log uncut (if not, you'll have to start over)



<sup>13</sup> Sidefive. "Stocking Your Bomb Shelter." *Underground Bomb Shelter*, 13 Apr. 2014, [undergroundbombshelter.com/stocking-your-bomb-shelter.htm](http://undergroundbombshelter.com/stocking-your-bomb-shelter.htm).

- Step 4 | Put kindling in the center and between the wedges
- Step 5 | Light the fire

## 2. Teepee

Best for:

- Beginners
- Large gatherings

You will need:

- A lighter/match

How to make it:

- Step 1 | Grab the smallest and driest pieces of kindling you can find
- Step 2 | Make a small, teepee-like structure with them (make sure it's not too tight by leaving an opening)
- Step 3 | Put some tinder, like twigs and grasses, inside the center of the structure
- Step 4 | Light the tinder (You want to give the fire a place to concentrate its flame while still allowing a good amount of air to come in. )
- Step 5 | Once your fire gets going, add more wood to help the fire slowly build.



## 3. Star

Best for:

- Keeping fire for a while
- When low on firewood

You will need:

- You will need a chainsaw or some other tool for cutting wood.
  - Chainsaws require access to gas or electricity
- A lighter/match

How to make it:

- Step 1 | Create a small teepee with sticks and kindling
- Step 2 | Lay out four to six logs around it, each with one end barely touching the teepee and the other facing out (like an asterisk)
- Step 3 | Light the teepee
- Step 4 | Adjust the logs as it burns to ensure that every log is slowly consumed by flame

## 4. Lean-To

Best for:

- Use while sleeping
- Protection against harsh weather conditions
- Provide warmth through wind and rain

You will need:



- You will need a chainsaw or some other tool for cutting wood.
  - Chainsaws require access to gas or electricity
- A lighter/match

How to make it:

- Step 1 | Place one big log down as the windbreaker
- Step 2 | Lean smaller firewood on it perpendicularly

Tip:

- Build your mini teepee beneath the lean-to, which will protect it from the elements.

## 5. Platform/UpSide-Down Fire

Best for:

- Cooking
- Long lasting fire

You will need:

- You will need a chainsaw or some other tool for cutting wood.
  - Chainsaws require access to gas or electricity
- A lighter/match

How to make it:

- Step 1 | Place the largest logs are the base and the small pieces of wood that make a teepee go at the top
- Step 2 | Lay two or three of the largest logs down horizontally and then place smaller logs vertically on top
- Step 3 | Continue this until you're ready to put your small teepee of kindling on top
- Step 4 | Light the fire and let it burn down until you've got glowing wood coals.



## 6. Log Cabin/Criss-Cross

Best for:

- Longevity
- Warmth

You will need:

- You will need a chainsaw or some other tool for cutting wood.
  - Note: chainsaws require access to gasoline or electricity
- A lighter/match

How to make it:

- Step 1 | Place two of the largest, sturdiest logs horizontally as the base,
- Step 2 | Place two logs on top of them vertically to create a three-dimensional #hashtag
- Step 3 | Work your way up with smaller logs and leave space in between them

- Step 4 | Add tinder or even a small teepee structure at the base
- Step 5 | Light your fire

## 7. BONUS: Keyhole

Best for:

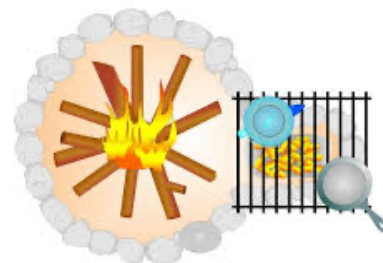
- Keeping you warm
- Hot coals for cooking

You will need:

- A lighter/match

How to make it:

- Step 1 | Mark out a keyhole shape in the dirt with stones, creating a circle at least 2 feet (61 centimeters) in diameter attached to a rectangle big enough to accommodate the cookware you want to use
- Step 2 | Create your favorite fire in the main ring (a teepee or log cabin works well here)
- Step 3 | Light the fire about an hour before you plan to cook
- Step 4 | Rake those coals into the rectangle section as they become available
- Step 5 | Place your cookware on top and get cooking!<sup>14</sup>



## Bread and Grains: What You Need to Know

Most, if not all cuisines have some form of bread, under both the same name and others. These dishes are a grain mixed with water, sometimes with salt and other flavorings added. Some use active or instant yeast, others create their own for the fermentation process. This section will review the different grains that can be used, how starters work, and the many different forms that “bread” can take.

### The Ingredients

- Soft White Spring and Hard Red Spring Wheats
  - High gluten flours such as All Purpose (AP) Flour and Bread Flour
- Durum Wheat
  - Durum flour
  - Semolina flour
  - Mostly used in pasta production
- Einkorn and Emmer
- Rye
- Spelt

Milling<sup>15</sup>:

<sup>14</sup> “How to Build the 7 Different Campfires You’ll Need This Summer.” *Discovery*, [www.discovery.com/exploration/how-to-build-the-7-different-campfires-you-ll-need-this-summer](http://www.discovery.com/exploration/how-to-build-the-7-different-campfires-you-ll-need-this-summer).

<sup>15</sup> Hamelman, Jeffrey. *Bread: A Baker's Book of Techniques and Recipes*. 2nd ed., Wiley, 2013. pp. 36-38.

- 1) Sweating: resting phase of ~6 weeks that reduces the moisture content of the wheat
  - 2) Purify the Wheat: make sure there is nothing other than the grains going into the mill
  - 3) Tempering: Add moisture (i.e. chlorinated water) and let rest for 6-48 hours, this will prevent microbial growth and ensure easier separation of bran and endosperm
  - 4) The Actual Milling: The wheat is ground then sifted, and the process is repeated many times, resulting in flour as the main product and bran and wheat germ as byproducts.
- Yeast (see Fermentation)
  - Salt
  - Water

## **Fermentation and Preservation**

Learning how to preserve food doesn't need to be limited to salting and drying it.

Fermentation is a method of preservation which utilizes microorganisms to ensure your food lasts longer while also adding depth of flavor.

### **1. Fermentation<sup>16</sup>**

Fermentation is not only a method of preservation but also of preparation. Fermentation is a process in which sugars and starches are converted into ethyl alcohol and carbon dioxide. Fermentation is used to make bread, beer and other alcoholic drinks, greek yogurt, cheese, kombucha, and much more. Following is a brief overview of the process of fermenting vegetables or other solid foods.

For this process, you will need the food you want to ferment (which must include carbohydrates (sugar)), a source of microbes (these may exist on the food already, or you can use material from previous fermented projects to introduce the microbial population to the new project), salt, an airtight container, and a dark place to store it.

- 1) Prepare the food you'd like to preserve by peeling, coring, slicing, and/or shredding. Weigh the prepared food.
- 2) For each pound of food, add two teaspoons of salt, and combine well.
- 3) Tightly pack food into airtight container(s) and use a rigid object to further press it in. Ideally, liquid drawn out of the food by the salt will rise above the food.
- 4) Let rest in a dark place. Every few days, open the container and re-press and re-pack the food.

### **2. Preservation**

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<sup>16</sup> Lewin, Alex. Real Food Fermentation: Preserving Whole Fresh Food with Live Cultures in Your Home Kitchen. Rockport Publishers, 2021. pp. 32, 75-77.

Fermentation is one process of preserving food. Another common method is pickling food. To pickle food, simply add some form of acid (lemon juice, vinegar, etc.) and let it rest. Foods preserved in these acidic mediums are less susceptible to bacteria and other organisms that try to eat the food.

## What to build before you cook:

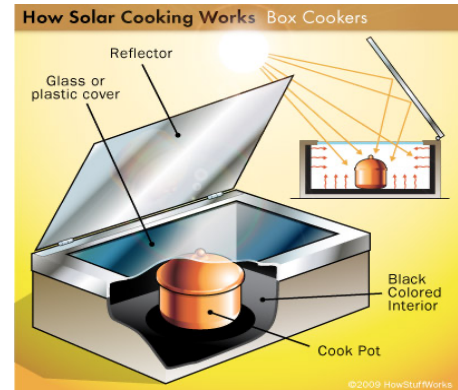
**1. Solar cooker:** A makeshift oven that uses solar energy to heat rather than gas or electricity.

You will need:

- A large, flat cardboard box
- Craft glue
- Aluminium foil
- Duct tape
- A sheet of black paper, or something dark in colour like a black oven tray
- A heat-proof glass bowl
- Two thermometers
- A hot day with minimal cloud cover at least 28°C + (82.4°F)

How to make a solar cooker:

- Step 1 | Change your box to have a single flap as a lid. This can be done by removing three of the flaps leaving only one long flap in place. Stick the removed long flap to the one left in place with staples and duct tape. It doesn't matter that your single flap is slightly shorter than the width of the box because it is only used as a reflector.
- Step 2 | Line the inside of your box and flap with aluminium foil and glue it into place with craft glue. Stick the edges of the foil down around the outside of the box with duct tape.
- Step 3 | Use the discarded cardboard from the short side flaps to create the legs you will use to prop the lid open. Do this by trimming the legs into thin strips (approx. 2 inches wide) with an angle on one end. Stick the legs on at an angle using duct tape. The flexible duct tape join will enable the legs to fold inside the box when you are packing it away. It will also enable the lid to be set at various different angles to best catch the sun's rays.
- Step 4 | Place your sheet of black paper inside the box with an upturned glass bowl on top. Place your thermometer underneath the bowl. If you have a second thermometer, put that outside the oven so you can compare the two temperatures.





How to use your solar oven:

- Set your DIY solar oven up outside in full sun, with the reflector facing directly at the sun. Monitor how hot it gets inside, when the temperature is above 70°C (158°F) it is warm enough to start using. As the sun moves across the sky, adjust the direction of the reflector accordingly. This will ensure maximum temperature inside your oven.
- Use a chart to record the temperature details along with observations of the item you are cooking inside or you can simply keep detailed notes in your preferred method. This will vary according to factors like the outside temperature, how high the sun is in the sky and the angle of your reflector in relation to the sun.
- Remember to use a tea towel to lift the glass bowl because it can get very hot.
  - Tip:
    - The temperature at high noon was actually lower inside the oven than it was in the late afternoon due to the angle of the sun in conjunction with the angle of the reflector.<sup>17</sup>

**2. Water purification:** Boiling water (sufficient to kill pathogenic bacteria, viruses and protozoa.<sup>18</sup>

You will need:

- A clean cloth or coffee filter.
- Salt
- Water
- Container with covers
- A pot
- Solar cooker or fire or stove



How to purify water:

- Step 1 | If water is cloudy, let it settle and filter it through a clean cloth or coffee filter.
- Step 2 | Bring water to a rolling boil for at least one minute in a pot.
- Step 3 | To improve the flat taste add one pinch of salt to each quart or liter of water
- Step 4 | Let water cool naturally and store it in clean containers with covers.

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<sup>17</sup> Kate, et al. "DIY Solar Oven Experiment." *The Craft Train*, 15 May 2020, [www.thecrafttrain.com/diy-solar-oven/](http://www.thecrafttrain.com/diy-solar-oven/).

<sup>18</sup> WHO, 2015.

## Desalination:

You will need:

- A metal cup
- Seawater
- A lid
- A pot or pan
- Solar cooker or fire or stove
- Container with covers



How to desalinate water?

- Boiling and distilling seawater
  - Step 1 | Place a metal cup in the center of a pot
  - Step 2 | Fill the pan with seawater so that it surrounds the cup leaving an inch between the water level of the pan and the top of the metal cup
  - Step 3 | Put a lid that has a handle in the center upside down on the pot so that as the water steams (evaporates) the lid will catch the water particles and drip down off the lid handle and into the cup.
  - Step 4 | Slowly bring the water to boil
  - Step 5 | Steam should condense on the lid or bowl and it should drip into the cup
  - Step 6 | Remove the cup and empty the distilled water into another container
    - Tips:
      - Make sure the pot lid has a good seal with the edges of the pot.
      - Without a good seal, a lot of the steam will escape and this will reduce the supply of fresh water vapor.

## Chapter 3: Nuclear Disaster

### Description:

In the event of a nuclear apocalypse we will lose access to nearly all traditional food sources, and so will need to turn to alternative methods in order to survive. Radiation and nuclear winter will make it difficult or impossible for the average person to survive on the surface, let alone acquire or grow food. For this reason, we will need to transition to a life underground, which includes gaining access to a shelter and stocking it with supplies prior to the disaster. Once underground, long term survival will require producing our own food using gardening methods which require little to no sunlight. Agriculture with an emphasis on growing mushrooms, seaweed, bean sprouts, broccoli, beets, etc will be essential. While some of these crops require some light, they are shade-tolerant, which makes them ideal to grow underground.

### Doomsday necessities:

In addition to the supplies and skills described in the introduction, we recommend obtaining:

- Iodine solutions or potassium iodide tablets for radiation poisoning
- Power generator and fuel to keep the shelter liveable and maintain some lighting for crops that require it
- Fertilizer and/or a composter
- Battery-powered or crank radio
- Battery-powered or crank flashlight, as well as emergency glow sticks
- Seed bank for crops
- Water jugs, enough for at least 1 gallon per person per day
- Portable toilet
- Dried foods, nonperishables, meals ready to eat (MREs)

### Let's Talk About Underground Gardening:

It will be important to grow your own crops as grocery stores and produce markets will be unavailable. So what do you need to grow food underground, where you and the crops are safe from radiation? The plants will need moisture, carbon dioxide, heat, and in some cases, light. If you can create a greenhouse like structure, then moisture and heat will be trapped inside it for the plants. Root vegetables and fungi, like potatoes and mushrooms respectively, do not need light to grow. However, most vegetables do require light. Full Spectrum light bulbs are a great way to bring the sun underground for your garden!

Composting is another way to enhance your garden and reduce waste. It is important to utilize everything when supplies are limited. Any leftover food and scraps can be saved and mixed with soil. As it decomposes, nutrients are released into the soil. Use this soil for your plants to give them an extra boost!<sup>19</sup>

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<sup>19</sup> Dore, Jeremy. "Grow in the Dark: Crops That Don't Need Light." *GrowVeg*, 2010, [www.growveg.com/guides/grow-in-the-dark-crops-that-dont-need-light/](http://www.growveg.com/guides/grow-in-the-dark-crops-that-dont-need-light/).

## Galette<sup>20</sup>

- ¼ c. butter
- 2 t. Olive oil
- 2 garlic cloves, chopped
- 3 c. Yukon Gold potatoes (unpeeled and sliced)
- 1 ½ c. Russet potatoes (unpeeled and sliced)
- ½ c shallots, sliced
- 2 ½ t. Salt
- ½ t. Black pepper



- Melt butter in a 10-inch cast-iron skillet over medium. Add oil and garlic. Cook, stirring often, until fragrant, 1 minute. Remove from heat. Transfer to a large bowl, reserving 2 tablespoons of mixture in the skillet. Add potatoes, shallots, salt, and pepper; toss to coat.
- Starting in the center of the skillet, arrange potato and shallot slices in a circular pattern, slightly overlapping slices, until the bottom of the skillet is covered. Repeat the process using remaining potato and shallot. Pour any remaining butter mixture in a bowl over the potato mixture. Press down firmly in the skillet. Place the skillet over high heat. Cook, undisturbed, until mixture begins to sizzle, 3 to 4 minutes. Remove from heat.
- Bake in a solar cooker until potatoes are tender and browned. Cool in skillet for 20 minutes. Invert onto a serving platter; cut into wedges.

## Socca<sup>21</sup>

- 5 ¼ c. chickpea flour
  - 5 ½ c. water
  - 5 T. olive oil
  - 2 t. Salt
- Sift flour and salt into a bowl, then add water and olive oil and mix until smooth. Let the batter stand at room temperature for 2 hours.
  - Oil a large flat pan and place over fire to heat up. Once the pan is hot and the oil has reached its smoking point, pour the batter into the pan and return to the fire. The Socca is done when the top surface is mottled with dark areas.
  - Cut into rectangles and enjoy while warm.

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<sup>20</sup> Theoktisto, Anna. "Crispy Potato Galette." Southern Living, [www.southernliving.com/recipes/crispy-potato-galette](http://www.southernliving.com/recipes/crispy-potato-galette).

<sup>21</sup> Hamelman, Jeffrey. Bread: A Baker's Book of Techniques and Recipes. 2nd ed., Wiley, 2013. pp. 358.

## Mushroom Pulled “Pork”<sup>22</sup>

- 4 king oyster mushrooms
  - 2 T. olive oil
  - 1 t. Smoked paprika
  - ¼ t. Salt
  - ¼ t. cayenne pepper
  - 2 garlic cloves, minced
  - ¼ c. BBQ sauce
- 
- Shred Mushrooms: Clean mushrooms with a damp paper towel. Using two forks, shred the stems and caps roughly into pieces. Set on a parchment paper-lined baking sheet.
  - Bake: Drizzle with 1 Tbsp of the oil, paprika, salt, cayenne, and garlic. Toss around to evenly coat the mushrooms, then bake in a solar cooker until mushrooms are a bit crispy and brown on the edges.
  - Sauté: Heat remaining 1 Tbsp oil in a large saute pan over medium high. Transfer cooked mushrooms to a pan and add BBQ sauce. Stir and cook for 3 to 5 minutes, until mixture is thick and fragrant. Serve warm on sandwiches, nachos, salads, tacos...or whenever you eat pulled pork!

## Grilled Mushroom Antipasto Salad<sup>23</sup>

- |                            |                                      |
|----------------------------|--------------------------------------|
| - 2 lb. assorted mushrooms | - 1 garlic clove, minced             |
| - 7 T. olive oil, divided  | - ¼ c. parmesan cheese, shaved       |
| - 2 T. White Wine Vinegar  | - ½ c. Castelvetrano olives, chopped |
| - 1 t. Aleppo Style pepper | - ¼ c. Peppadew peppers, chopped     |
| - 1 t. Dried oregano       | - Salt                               |
- 
- Prepare a fire and heat the skillet. Toss mushrooms and 3 Tbsp. oil in a large bowl to coat. Grill, turning occasionally with tongs, until lightly charred, 2–6 minutes (depending on size and type). Return to bowl; season with salt.
  - Whisk vinegar, Aleppo-style pepper, oregano, garlic, and remaining 4 Tbsp. oil in a small bowl to combine; season vinaigrette with salt and black pepper. Pour over mushrooms and toss to coat. Add Parmesan, olives, and Peppadew peppers; gently toss to combine.

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<sup>22</sup>Bond, Sarah. “Mushroom Pulled Pork (Vegan + Under 30 Minutes).” Live Eat Learn, 15 Aug. 2019, [www.liveeatlearn.com/mushroom-pulled-pork/](http://www.liveeatlearn.com/mushroom-pulled-pork/).

<sup>23</sup>Leone, Brad. “Grilled Mushroom Antipasto Salad.” Bon Appétit, Bon Appétit, 13 Oct. 2020, [www.bonappetit.com/recipe/grilled-mushroom-antipasto-salad](http://www.bonappetit.com/recipe/grilled-mushroom-antipasto-salad).

## Soy-Glazed Tofu and Mushrooms<sup>24</sup>

- 14 oz. tofu, drained
- 3 T. vegetable oil, divided
- 12 oz. mixed mushrooms
- 3 celery stalks, sliced thinly
- 3 T. soy sauce
- 1 t. Toasted sesame oil
- 1 lime, halved
- ½ c. cilantro, chopped
- Rice (for serving)



- Cut the block of tofu into thirds crosswise, then cut each piece crosswise again into 3 pieces (you should have 9 square-ish pieces). Pat dry with paper towels.
- Heat 2 Tbsp. vegetable oil in a large skillet, preferably nonstick. When oil is shimmering and easily slides across the surface of the pan, cook tofu, undisturbed, until golden brown underneath, about 4 minutes. Turn and continue to cook until browned on the second side, about 4 minutes. Transfer tofu to a plate, leaving oil in pan
- Pour remaining 1 Tbsp. vegetable oil into skillet and heat over medium-high until shimmering. Add mushrooms to pan and cook, undisturbed, until crisp around the edges and browned underneath, about 4 minutes. Give mushrooms a toss and continue to cook, tossing often, until browned in most spots, about 4 minutes longer. Add tofu, celery, ginger, chile, soy sauce, and sesame oil to the pan. Season lightly with salt and cook, tossing often, until celery is crisp-tender, about 3 minutes. Remove from heat and squeeze in lime juice. Scatter cilantro over and toss once more.
- Divide rice among bowls. Top with tofu and mushroom stir-fry.

## Slow Cooker Black Bean, Quinoa, and Sweet Potato Stew<sup>25</sup>

- |  |                     |
|--|---------------------|
| 4 c. sweet potatoes, cut into 1” cubes | - 2 T. cumin        |
| 11 oz. corn                            | - 1 T. chili powder |
| 19 oz. black beans                     | - 4-5 c. stock      |
| 19 oz. diced tomatoes                  | - ⅔ c. quinoa       |
| 1 c. red onion                         | - 2 T. lime juice   |
| 1 t. Salt                              |                     |

<sup>24</sup> Baraghani, Andy. “Soy-Glazed Tofu and Mushrooms.” Bon Appétit, Bon Appétit, 2 May 2021, [www.bonappetit.com/recipe/soy-glazed-tofu-and-mushrooms](http://www.bonappetit.com/recipe/soy-glazed-tofu-and-mushrooms).

<sup>25</sup> Bustard, Denise. “Slow Cooker Black Bean, Quinoa and Sweet Potato Stew.” Sweet Peas and Saffron, 8 Jan. 2021, [sweetpeasandsaffron.com/slow-cooker-black-bean-quinoa-sweet-potato-stew/](http://sweetpeasandsaffron.com/slow-cooker-black-bean-quinoa-sweet-potato-stew/).

- Place all ingredients into the insert of a 5 or 6 quart slow cooker. This makes a big batch and your slow cooker will be quite full.
- Cook on low for 6 hours.

## Cauliflower Gnocchi<sup>26</sup>

- 5 c. cauliflower, chopped
  - 1  $\frac{3}{4}$  flour (AP or gluten free)
  - 1 T. Olive Oil
  - $\frac{3}{4}$  t. Salt
  - Sauce for serving
- 
- Add the cauliflower to a steamer basket set over a medium pot of boiling water. Cover and steam for 10 minutes, or until fork-tender.
  - Transfer the cauliflower to a clean dish towel and squeeze the excess water into a bowl.
  - Transfer the squeezed cauliflower to a food processor. Add the flour, salt, and olive oil and pulse until the dough forms a ball.
  - Transfer the dough to a lightly floured surface and knead for 3-4 minutes, or until the dough bounces back when poked.
  - Shape the dough into a ball, then cut into 4 equal pieces.
  - Working 1 piece at a time, cut in half again, then roll out a rope about 6 inches (3-cm) long and 1 inch (2-cm) wide. Slice each rope into  $\frac{1}{2}$ -inch (1-cm) pieces.
  - Roll each piece along the back of a fork to create a line pattern.
  - Transfer the gnocchi to a large pot of salted boiling water. Boil until the gnocchi float to the surface, 3-5 minutes, then remove with a slotted spoon.
  - Toss the gnocchi with sauce and serve immediately.
  - Enjoy!



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<sup>26</sup> Gaewski, Rachel. "Cauliflower Gnocchi Recipe by Tasty." Tasty.co, Tasty, 27 Sept. 2018, [tasty.co/recipe/cauliflower-gnocchi](https://tasty.co/recipe/cauliflower-gnocchi).

## Chapter 4: Climate Catastrophe

### **Description:**

In the event that climate change is not curtailed and conditions begin to threaten daily survival, a number of precautionary measures will need to be taken. While not everyone will be forced to abandon their homes, high CO<sub>2</sub> levels and temperatures will put serious strains on food supplies, so those who are able to sustainably produce their own food will be in a much more advantageous position for long-term survival. Certain crops will perform better in hot climates than others, including okra, sweet potatoes, peppers, eggplant, tomatoes, melons, basil, cucumbers, and maize. However, many of these crops, especially maize, require sufficient water to thrive in hot climates. Installing wells to access groundwater or traps to access and purify rainwater will be instrumental for growing these crops and surviving. Acidification of rain and groundwater is a major concern under a runaway climate scenario, and so the ability to safely make these waters more alkaline will also be important. Provided the proper preparations are made, it will likely be much easier to survive in a world stricken by climate change than in a nuclear disaster.

### **Doomsday necessities:**

In addition to the supplies and skills described in the introduction, we recommend obtaining:

- Seed bank for crops
- Gardening supplies
- Broad spectrum, high SPF sunscreen
- Livestock feed, medicine, and supplies
- Water purification systems
- Power generator and fuel
- Bandanas or scarves to limit sun exposure and help preserve sweat
- Solar cooker, dutch oven, or other cooking instruments that don't require electricity
- Smoking apparatus to dry and preserve food



## Dried Anything!

- Cured meats & Fish
- Dried fruits
- Vegetables
- Herbs
  
- Lay out the cured meats and fish first, followed by any dips.
- Next add the dried fruits and vegetables.
- Finally, add any herbs to accompany your other items



## Saffron-Spiced Vegetable Couscous<sup>27</sup>

- Couscous<sup>28</sup> (see appendix)
  - 1 ¼ c. water
  - 8 oz. Carrots, cut in to ¾” chunks
  - 2 small Turnips, cut into ¾” chunks
  - 2 large Fennel bulbs, cut into 6 wedges
  - 1 Eggplant, cut into ¾” cubes
  - 4 Zucchini, cut into ¾” cubes
  - 3 T. Cilantro
  - 4 T. butter
  - Salt
  - 8 T. olive oil
  - 2 onions, cut into wedges
  - 4 garlic cloves, crushed
  
  - 1” ginger root, peeled and grated
  - 1 T. ground cumin
  - 1 T. ground coriander
  - 1 t. Turmeric
  - 1 t. Paprika
  - 1 t. Black Pepper
  - 2” cinnamon stick
  - 1 t. Saffron, soaked in 2 T. warm water
  - 3 c. vegetable broth
  - 26 oz. chopped tomatoes
  - 2 T. tomato paste<sup>29</sup> (see appendix)
  - 2 T. sweet chili sauce
- 
- Put the couscous into a large bowl and cover with the water. Leave to soak for 10 minutes before forking through it and leaving for another 10 minutes.
  - To make the sauce, heat half of the olive oil in a saucepan and fry the onions until they begin to brown. Add the garlic and ginger, before stirring in the ground spices and

<sup>27</sup> Connery, Clare, and Sandra Lane. *The Complete Vegetable Book*. Barnes & Noble, 1998. pp. 148-149

<sup>28</sup> “DIY Project: How To Make Hand-Rolled Couscous.” Food Republic, 20 Feb. 2018, [www.foodrepublic.com/recipes/diy-project-make-hand-rolled-couscous/](http://www.foodrepublic.com/recipes/diy-project-make-hand-rolled-couscous/).

<sup>29</sup> McClellan, Marisa. “How To Make Tomato Paste.” Kitchn, Apartment Therapy, LLC., 8 July 2019, [www.thekitchn.com/how-to-make-tomato-paste-cooking-lessons-from-the-kitchn-206853](http://www.thekitchn.com/how-to-make-tomato-paste-cooking-lessons-from-the-kitchn-206853).

cinnamon stick and let sit for a few minutes. Add the broth, tomatoes, tomato paste, chili sauce and saffron to the pan and bring to a boil.



- Add carrots and turnips to the sauce and reduce the heat. Cover with aluminum foil or lid and let simmer for 10 minutes.

- In a skillet, heat the rest of the oil and fry the fennel wedges until lightly colored. Transfer to the sauce, then repeat the process with the eggplant and zucchini (separately). Continue to cook the sauce with the vegetables until the vegetables are tender, about 15-20 minutes. Steam the couscous during this final cooking.

- To serve, pile couscous on a plate then spoon vegetables on top. Garnish with cilantro sprigs.

## Caprese salad

- 3 Roma tomatoes, sliced
- 5 oz. mozzarella log, sliced (if you can get it, otherwise, it can be made from milk curd)
- Basil, chopped
- Olive oil
- Balsamic vinegar
- Salt
  
- Alternate tomatoes and mozzarella slices on the plate, before drizzling olive oil and balsamic vinegar over top. Garnish with basil and salt and enjoy!



## Street Corn Salad

- 4 c. corn
  - 1 onion, chopped
  - 2 Red Bell Peppers, chopped
  - 2 garlic cloves
  - 1 T. cumin
  - Cojeta
  - Salt
  - Pepper
  - Cilantro
  - Hot Sauce
- Saute onion and red bell pepper with garlic, salt, and pepper in a skillet over a fire. Once the onion has softened, add the corn and saute for 4-5 more minutes.
  - Remove from heat and mix in the cumin, cilantro, and more salt and pepper to taste. Sprinkle cotija and hot sauce on top and enjoy!

## Ratatouille<sup>30</sup>

- ½ c. olive oil
  - 2 eggplants, quartered lengthwise and cut into ½” slices
  - 2 zucchini, cut into ½” slices
  - 2 red bell peppers, chopped
  - 1 yellow bell pepper, chopped
  - 2 onions, sliced
  - 3 garlic cloves, crushed
  - 1.5 T. tomato paste
  - 13 oz. plum tomatoes
  - 12 basil leaves
  - 1 T. finely chopped oregano
  - 1 t. finely chopped thyme
  - 1 T. paprika
  - 3 T. chopped parsley
  - Salt
  - Pepper
- Heat oil in a dutch oven without the lid and add the eggplant, zucchini, and peppers tossing occasionally, then let cook in a solar cooker until tender, about 45 minutes.
  - While the vegetables are cooking, heat the remaining oil in a saucepan and fry onions and garlic until soft. Add the tomato paste, plum tomatoes, basil, oregano, thyme, and paprika, and season with salt and pepper to taste. Cook for 10-15 minutes or until mixture is thick.
  - Transfer vegetables from solar cooker to tomato mixture, gently stirring to combine. Add parsley and taste for seasoning. Enjoy hot or cold.

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<sup>30</sup> Connery, Clare, and Sandra Lane. The Complete Vegetable Book. Barnes & Noble, 1998. pp 162.

## Lentil soup<sup>31</sup>

- 3 T. olive oil
  - 1 yellow onion
  - 2 t. Minced fresh thyme leaves
  - ½ t. smoked paprika
  - ½ t. Dried tarragon
  - 2 carrots, small dice
  - 2 celery stalks, small dice
  - 4 garlic cloves, minced
  - 1 c. lentils
  - 14 oz. crushed tomatoes
  - 14 oz. diced tomatoes
  - 6 c. vegetable stock
- Heat olive oil in dutch oven. Add onions and saute until they are completely softened, about 8 minutes.
  - Add minced thyme, smoked paprika, and dried tarragon. Stir in and continue to mix until fragrant.
  - Add the carrots and the celery and combine. Season with salt and pepper to taste. Once carrots and celery are sauteed, add the garlic.
  - Add the lentils to the pot, followed by both crushed and diced tomatoes. Add the vegetable stock and combine everything.
  - Cover and bring soup to a boil before lowering heat and simmer for 25 minutes, with steam able to escape the pot.

## Pitas<sup>32</sup>

- 3 ⅔ bread flour
  - 2 ½ t. Instant yeast
  - 2 t. Salt
  - 1 ⅓ water, room temperature
  - ¼ c. olive oil
  - 2 ½ t. sugar
- Combine flour, yeast, and salt in a mixing bowl and water, olive oil, and sugar in another. Slowly incorporate liquids into dry ingredients, mixing as you go. Once fully combined, knead until the dough is smooth and elastic. Wrap tightly and let rest for 1½ to 2 hours.
  - Deflate dough and transfer to a clean and floured surface. Divide dough into 8 pieces. Working with one piece at a time, stretch dough around your thumb to form a ball. Place on the surface and flatten into 8" round of even thickness. Repeat with remaining pieces.
  - Heat a baking stone (or a large skillet) over a fire.
  - Bake each pita onto stone and bake until an air pocket begins to form. Flip pita with spatula and continue to bake until golden brown.
  - Let cool before serving.

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<sup>31</sup> Wright, Laura. The First Mess Cookbook: Vibrant Plant-Based Recipes to Eat Well Through the Seasons. Penguin Canada, 2017. pp 68.

<sup>32</sup> Bread Illustrated: A Step-by-Step Guide to Achieving Bakery-Quality Results at Home. America's Test Kitchen, 2016. pp 216-219.

## Chapter 5: Conclusion

We hope by now you feel more secure in your ability to survive the end of the world. We have explored what you can expect in worst case disaster scenarios, the nutrition requirements you'll need to survive over the long-term, general ingredients and supplies to stock up on beforehand, tools, tips, and tricks for when disaster strikes, and of course some delicious recipes to get you started surviving in style. *Recipes for Disaster* is by no means a foolproof, comprehensive guide for how to survive every potential end of the world scenario, but rather serves as a primer to give you some preliminary skills, advice, and recipe ideas in order to help you prepare for existential threats and increase your chances of surviving them if and when they become reality. Happy cooking and happier surviving!

## Appendix: Some Basics

### Couscous

- 4 t. Salt
- 2 c. warm water
- 4 c. fine semolina flour, divided
- 2 T. unsalted butter, melted

1. Dissolve salt into water and place some in a spray bottle. Spread 1 cup semolina on the rimmed baking sheet in a thin layer. Moisten the semolina lightly all over by spraying it 10 to 15 times with the spray bottle. Gently work the semolina in a circular motion with both your hands held flat and fingers spread, without pressure, until the semolina has absorbed all the water and feels dry.
2. Continue to moisten the semolina, 10 to 15 sprays at a time, and roll with your palms and fingers until the semolina, which will increase in size and become rounder, starts to look like fine couscous, about the size of a pinhead. If the grains are slightly wet, sprinkle with a little more fine semolina and roll lightly in a circular motion as before until they feel mostly dry.
3. Set the colander over a large shallow container and gently work the couscous through the colander holes, discarding any large clumps that accumulate in the colander.
4. Repeat this process with the rest of the semolina, 1 cup at a time, and as much of the salted water as needed. The couscous can be left to dry for several hours before starting the steaming process.
5. To steam the couscous on its own, bring 4 quarts water to a boil in the bottom of the dutch oven. Once the water has come to a boil, line a steamer basket with a large double-layered piece of cheesecloth. Loosely mound the hand-rolled couscous in the cloth and set the insert over the boiling water. Let it steam, uncovered (so the steam doesn't condense and drip down onto the couscous, making it heavy), for 20 minutes.
6. Gather the couscous up by the edges of the cheesecloth and empty it into a wide shallow pan. Sprinkle with  $\frac{3}{4}$  cup water and let stand until cool enough to handle. Rub the couscous between your hands to separate the grains.
7. Return the cheesecloth to the top of the couscous pot and lightly mound the couscous on it again. Let it steam in the same way over the boiling water for another 20 minutes. Transfer the couscous once again to the shallow pan. This time, drizzle with  $\frac{3}{4}$  cup more water as well as the melted butter. When cool enough to handle, rub the grains between your hands again and return the couscous to the cloth-lined top section of the pot. (This much can be done a couple of hours ahead.)
8. About 15 minutes before serving, place the couscous over the boiling water, wrapping the sides of the dutch oven with the towel again, and steam the couscous until heated through, about 15 minutes. Fluff the couscous with a fork and mound on a large platter to serve.

### Sourdough Starter<sup>33</sup>

- 4  $\frac{1}{2}$  c. whole wheat flour
- 5 c. all purpose flour

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<sup>33</sup> Bread Illustrated: A Step-by-Step Guide to Achieving Bakery-Quality Results at Home. America's Test Kitchen, 2016. pp 364.

Filtered water, room temperature

1. Combine equal parts of whole wheat flour and all purpose flour in a bowl and set aside. On day 1, mix 1 cup of flour mixture with  $\frac{2}{3}$  cup water. Cover tightly and let sit until a culture has been established (the mixture will be bubbly and have a strong aroma).
2. To feed the culture, mix  $\frac{1}{4}$  cup established culture with  $\frac{1}{2}$  cup flour mixture and  $\frac{1}{4}$  cup water. Cover tightly and let sit.
3. Feed every day for 10 to 14 days, until the mixture rises and falls within 8 to 12 hours after being fed.
4. Once the starter has reached this point, stir  $\frac{1}{4}$  cup culture,  $\frac{1}{4}$  cup water, and remaining  $\frac{1}{2}$  cup all purpose flour. Let sit at room temperature for 5 hours before covering loosely and refrigerating.
5. Once a week, refresh and feed culture by mixing  $\frac{1}{4}$  cup culture,  $\frac{1}{4}$  cup water, and  $\frac{1}{2}$  cup all purpose flour and combining. Let rest at room temperature for 5 hours before covering loosely and refrigerating.

The discarded starter can be composted or shared with others to help them establish their own sourdough culture!

## **Tofu**

Cheesecloth

Mold (a square or circular tray will also work)

Tray to collect the excess liquid

Skimmer Spoon

Dry Soybeans

Water

Lemon Juice

1. Soak the soybeans in water for ~6 hours
2. Break down the soybeans by adding them to a food processor if available, otherwise use a mortar and pestle to grind. Add water and continue to combine until smooth.
3. Run mixture through a sieve into a large pot and bring to a boil, removing any foam that forms. (This is soy milk!)
4. Juice the lemons and add the lemon juice as soon as the soy milk begins to boil and remove from heat. Stir a few times then let rest as curdles begin to form.
5. Lay cheesecloth over mold and transfer curdled milk into mold.
6. Wrap cheesecloth around solids tightly and place a heavy object on top, allowing the tofu to harden. After about 20 minutes the firm tofu is ready. For different firmness levels, alter the amount of time the heavy object is on top.

## **Tomato Paste**

10 lb tomatoes (See Recipe Note)

2 T. olive oil

2 t. sea salt

## 2 T. lemon juice

1. Quarter the tomatoes.
2. Place the olive oil in a dutch oven and heat over a fire until shimmering. Add the tomatoes and cook until soft and the peels begin to detach from the tomato flesh.
3. Push the warm tomatoes through a food mill, sieve, or chinois to separate the tomato pulp from the seeds and skins. Stir the sea salt and lemon juice into the pulp. Discard or compost the seeds and skins.
4. Place the pulp on 2 baking sheets.
5. Place one of the baking sheets in the solar cooker. Check the tomatoes every half hour, stirring the paste. Over time, the paste will start to reduce to the point where it doesn't fill the baking sheet any more. The paste is done when shiny, brick-colored, and reduced by more than half, 4 to 5 hours, though exact baking times will depend on the juiciness of your tomatoes. There shouldn't be any remaining water or moisture separating from the paste at this point. Repeat with the remaining baking sheet.
6. Transfer the paste into jars.

Preserving Option 1– Process the tomato paste in a hot water bath. Apply lids and rings and process in a boiling water bath for 15 minutes. Keep in a cool, dark place for up to 1 year. After opening, refrigerate for up to 1 week.

Preserving Option 2 – Refrigerate or freeze. If you don't want to process the paste, you can refrigerate or freeze it instead. Scrape finished paste into clean half or quarter pint jars. Top each jar with a layer of olive oil and place in either the refrigerator or the freezer. As long as you keep it well-covered with olive oil and ensure that you only use a very clean spoon to remove it from the jar, it will keep in the fridge for 3 to 4 weeks. Frozen, it will keep for up to 9 months.



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Note on the recipes: The preparation instructions are mainly the same for the recipes. The main difference is the cooking instructions, which were changed to utilize cooking methods discussed earlier in the book to make the recipes doomsday friendly.

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