

Survival Cooking

Vikki & Patrick Cauldwell May 2006

There are three main things to consider when dealing with “survival cooking”, at least as we are defining it here.

- What scenario are you planning for
- What food should you store
- How will you cook it, if required

What are you planning for?

We are going to consider three different scenarios in which survival or emergency cooking or food prep are concerned:

Your CERT team has been deployed

If you are deployed as part of a CERT team, you will need to be prepared to provide your own food for 72 hours, and you will need to be able to carry it on your back. This puts some pretty serious restrictions on what kind of food is appropriate, and the important considerations are:

- How much weight are you willing to carry?
- Do you carry- or will you have access to a heat source?
- How hungry are you willing to feel?

There has been a disaster, and you must evacuate

This is the case where there has been a disaster/emergency, and your house has either been destroyed, or it is unsafe for you to remain there. This means that all you have to work with is what is in your household 72-hour kit, which you have taken with you when you evacuated. Primary considerations are:

- Size and weight restrictions. What can you fit in your 72-hour kit (I’m assuming the trash can as a model)
- Heat source (how will you cook if necessary)
- How much water you have

There has been a disaster, but no evacuation is required

This is that case where a disaster has happened (like a NW wind storm) where you are still in your home, but basic services (like power) are not available, and stores are out of commission. For the sake of planning, it’s best to assume that not only is power out, but possibly water was well, as in the case of a flood or other water-supply-contaminating incident. Primary considerations are:

- What do you have on hand in your home and how is it stored
- How you will cook it, if required
- How much water you will have access to

Not considered

We aren't going to consider "wilderness survival" style cooking. We are assuming that this information is most useful in the context of CERT, and that we aren't concerned with how to survive while lost in the wilderness. That's a fascinating topic in and of itself, but there is a good deal of literature available if you are interested. Any of the books by Tom Brown are a good place to start.

What kind of food should you have?

CERT bag

What kind of food you store will depend on which of the scenarios above you are planning for. If you are planning on deploying with a CERT team, you will want food that is light, and which doesn't require heat. Some options there are:

- Emergency rations such as those from Mainstay or Datrex
- Survival food tabs
- Grocery store "energy bars"
- Long shelf life meat products, such as jerky or beef-stick
- Small cans of meat, such as tuna or chicken

Emergency rations are products like grocery store energy bars, only designed for very long shelf life, and a more complete nutritional profile. Both Mainstay and Datrex (and probably others) make products that provide a 72-hour supply of food that will last for 5 years, and takes up very little space. The big advantage to these is that you can stuff a few in your CERT bag, and you won't have to change them out for up to 5 years. They are light, small, and provide a good source of calories and vitamins for 3 days. Keep in mind, though, that although these will certainly keep you going for three days, *you will still be hungry*. The 3-day rations are based on 1200 calories a day, which is plenty to keep you up and functioning for three days, but you will still feel hungry. If you live in a place where it's cold outside, and you are going to be working (such as on a CERT team) you may want to carry 2 sets. If you are outside in the cold and/or doing much work, 2400 calories a day will come much closer to being what your body needs. These kinds of rations were really developed for lifeboats and other situations where the assumption is that you'll mostly be sitting around. So, if you carry these in your CERT bag, either carry two sets, or something else in addition. Grocery store "energy bars" such as Clif or Power Bars are good choices, since they are tasty, and contain lots of calories as well as good nutrition. They do have to be changed out fairly regularly, though. I'd suggest replacing them at least every 6 months, and you may want to test them to see how they hold up to temperature changes. I keep my CERT kit in my car, where it can get either pretty hot or cold, so something that's going to melt in the heat wouldn't be a good choice. Another choice that might be good for a CERT kit are "survival food tabs". These were designed for Special Forces, and so are meant to be very light and keep well. One bottle is supposedly a 15 day supply for one person, but again, keep in mind that you will be quite hungry. That ration is meant to keep you alive for 15 days, not keep you working. I believe that's only 240 calories a day for 15 days, plus a good supply of vitamins and minerals, etc. It'll keep you alive, but not working hard. However, they are very light, and are rated to keep for 10 years, so it might be a good addition.

Another option for a CERT bag is some kind of long-storage meat product. Things like jerky/pepperoni sticks, beef stick / summer sausage, or canned tuna or chicken are a good choice, as they are relatively light, high in protein, and calorie dense. They will have to be changed out at least every 6 months to a year for the jerky, etc. and probably every 1-2 years for canned meat. If you pack canned meat, remember a can opener, and keep in mind that cans are comparatively heavy. One thing to consider with meat products is the salt content. Things like jerky will make you very thirsty, and if all you have access to is the water in your CERT bag, you will suffer. That's less of a problem with tuna or chicken, since the salt content is much lower, usually.

There are some things that I would recommend against for a CERT kit. Canned food is heavy and bulky, and most of it takes heat to be palatable. Things like tuna or chicken are exceptions, since they tend to come in very small cans. Other canned foods like fruits and vegetables, beans/chili, or larger canned meat products like SPAM are heavy, and many really need to be heated. The same is true of MRE rations. Because they aren't dehydrated, they are heavy, and need to be heated to be (comparatively) palatable. They are also fairly bulky. Dehydrated food is not a good idea, since you have only have the water in your CERT bag, and it's not enough to re-hydrate dried food, plus most of them require hot water, which is a further potential problem.

As far as a heat source is concerned, it's probably best to assume that you won't have access to anything that's not in your bag. If you want to carry some kind of heat source, consider solid fuel tabs. For less than \$10, you can get a fold-up metal tripod stove that holds solid fuel tablets, plus 3 of the tablets themselves. These are very small and light, and will burn under pretty harsh conditions. Think Sterno, but without the can. Sterno works too, but it's a bit heavier, and won't burn well if there's any wind. In an extremity, you can always heat up canned food on your car's engine block, but that's rather a last resort. You could carry a backpacking stove in your kit as well. These are heavier than the fold-up tablet kind, and you'd have to store fuel as well, but you can easily store a week or two worth of white gas in a very small bottle. Also, some models will burn a number of different fuels, such as kerosene, auto gas, or alcohol, which could be handy in an emergency, but these stoves tend to be expensive.

Note: don't forget to feed the monkey! For many of us, coffee, soda, or other caffeinated beverages are a part of our daily lives, and withdrawal can be quite serious. The last thing you need when you are trying to respond to a disaster is crushing headaches and lethargy. It may be worth keeping some no-doze or similar caffeine pills in your bag. I do, as I wouldn't want to deal with that problem on top of everything else in an emergency. You can get small packs of it from the checkout stand or dollar store to keep stashed.

72-hour kit

If you have a 72-hour kit to fill, such as the canonical trash-can example, you have a lot more space and potential weight to work with. The choices mentioned for the CERT kit still apply, but you can also add some things with greater space and weight requirements. Canned food becomes a pretty good choice here, as well as longer-storage options like freeze dried foods. Your 72-hour kit probably also has more room for water storage, so you can plan for a few things that require more water to prepare.

Since you can deal with some heavier foods, things like SPAM, cheese-food like Velveeta, or other canned meat or beans might be good choices, provided you have a heat source. A backpacking stove would be an easy thing to keep in your trash can, or possibly even a camp stove (e.g. Coleman) if you have room. Remember that if you plan on having a heat source, you also need a pot to cook in. You can use light-weight camping cookware, or older pots and pans such as “Revere ware” which are relatively light.

Safety consideration: if you pack a heat source such as a backpacking- or camp stove, ventilation is required. You can't burn white gas or propane in a closed room. You will need to either go outside, or make sure there is *lots* of ventilation. Many backpacking stoves are intended for use on the ground or a rock, and will *severely* damage a table top or other indoor surface.

Kids: If your family includes children, keep in mind that under stressful conditions children's behavior can regress, and they may want food that is familiar and comforting. You aren't going to get (most) children to eat “green things” like canned green beans, or other kid-suspect food in an emergency situation. Keep things like cheese and crackers, either pre-packages snack sized ones (Costco has them cheap) or soda crackers and “squeezy-cheese” style cheese product. It's fun for kids, and may be something they find comforting. Macaroni and cheese would also be a good choice, as it's light and doesn't take up much space, although it does require more water. The “deluxe” style mac & cheese that comes already sauced might be good, as the pouches will keep quite some time.

Another thing that may be a good choice for your 72-hour kit is military-style MREs (Meal, Ready to Eat). Frankly, I don't recommend them personally, but many people to keep them for emergencies, and they are readily available. The plus to MREs is that they come essentially ready to eat. They don't require extra water, and some of them even come with self-heating units that create heat when you wet them. The downside is that the really do need to be heated in some fashion, and my experience is that the self-heating units don't actually work. The biggest downside is that they are absolutely vile! I guess if I was really hungry, I'd consider it, but all the MREs I've ever had have been something that you could choke down if you really had to. The military says the new ones taste better, and maybe that's true. Your mileage may vary. What I'd prefer as a substitute is one of the many available brands of pre-cooked, irradiated Indian food widely available in natural food stores or in great profusion in Indian grocery stores. These are Indian dished packed in pouches that will keep for several years with no refrigeration, and which taste MUCH better than MREs, IMHO. If you buy them from an Indian grocery store, they run around \$2 each, take up very little space, and taste very good (if you like Indian food, of course).

Disasters at home

Not plumbing emergencies (☺), but times when you lose utility service, but it's safe to remain at home.

If you are home, but without power, you'll have a lot of options with regards to food. The first priority is probably to use up whatever you can from your fridge/freezer. When that runs out, the big issues become how much food you have stored for emergencies, and how much water you have access to. You can assure a good supply of water by filling a

55-gallon drum with water and keeping it in your garage or a shed. You do need to consider water quality, so you can either add bleach or another additive for long term storage, or you can change the water out at regular intervals, probably every 4-6 months. If you use something like a backpacking water filter, or other pump-and-filter combo, that will remove most of the bleach when you want to use the water and it provides an easy way to get it out of the barrel.

If you have either a 55-gallon drum, or your water is still safe to drink, then the best long-term food storage choice is probably freeze-dried. Several companies, including Mountain House and AlpineAire, make a wide array of freeze-dried foods available either in single serving packages, or in large, multi-serving #10 cans filled with nitrogen. The single serving packages are rated for 5 years of storage, and the #10 cans for at least 20 years, if not longer. Mountain House claims they have used cans over 30 years old without degradation. There are many choices available, including breakfast and dessert foods. The #10 cans provide ~10-20 servings per can, depending on the item, and they will keep essentially indefinitely. This means you can easily store weeks worth of food for a whole family in very little space as long as you have water available. You do need hot water, so some heat source is still a requirement. **Note:** do not, under any circumstances, eat these products “dry”. It may seem like a good idea at the time if you don’t have water, but you *will* be sorry. They will pull water out of your system once they are in your stomach, and you’ll end up pretty sick.

The downsides to the freeze-dried food are that you do need a reliable supply of hot water, and that they are comparatively expensive. A ten day supply for a whole family is a little under \$500. On the other hand, you’ll only have to spend that money once in 30 years. They take up sufficiently little space that the companies sell year’s supply packages (almost \$4000 / person). Most people probably don’t need quite that quantity, however.

If you have a decent water supply, pasta is a good choice, since it will keep for long periods, and is relatively calorie-dense.

Any of the foods discussed under CERT or 72-hour kit above still apply to the disaster at home scenario as well, although with fewer constraints you can store tastier, more satisfying food. Canned beans, vegetables, and fruits are good choices for your at-home kit, since they will happily sit for years at the back of your pantry, and are calorie-dense and don’t require extra water. However, you should try to use the perishables from your pantry before resorting to cans. Things like onions, potatoes, and apples will keep for weeks, but not indefinitely, so they, along with the contents of your fridge/freezer should come first.

Another thing to consider when planning an at-home kit is that your neighbors are probably not as prepared as you are, and may come calling if the emergency lasts very long, particularly if they know you are a preparedness type. It never hurts to have extra canned food on hand.

If you have water, it’s probably a good idea to keep a supply of coffee and tea. Those will help with caffeine issues as mentioned above, as well as being something comforting in times of stress.

One other thing to consider is vitamins. Many places that sell “survival food” also sell vitamins that have a 10-year shelf life. These would be a good addition to your home or 72-hour kit, since depending on what’s in your kit you may need vitamin supplements. If

your at-home kit consists mainly of canned beans and SPAM, storing some vitamins may be a good idea.

How will you cook it?

If your kit includes things that must be cooked, or require hot water, you will need to plan for some heat source. There are a number of options, and what is best depends on the space you have and how portable you want it to be.

Most portable

The most portable options are solid-fuel solutions, or backpacking stoves. Solid fuel solutions such as Sterno, or tablets like Esbit®, Trioxane, or Hexamine will store indefinitely and take up very little space. They make small, hot, fairly smokeless flames that can be used to heat canned goods or water, or warm up small quantities of food. The tablets also make excellent fire starters if you need to get charcoal or wood burning.

They are also comparatively safe in enclosed spaces, so if you are trying to cook indoors they'd be a better choice. Ventilation is still best, however.

Backpacking stoves are small, light, easy to use, and many can run for extended periods on very little fuel. They fall into two general categories: liquid fuel, and “cartridge” stoves. The liquid fuel models rely on an external bottle of liquid fuel, such as white gas or kerosene. Many stoves can use more than one fuel, and a quart bottle of white gas will easily last a week or more. The disadvantage to them is that the fuel is volatile and messy, and they tend to be more work to light. Most require “priming” first, meaning that a quantity of fuel has to be burned on top of the stove to heat the properly before use. This “priming” stage makes them unsafe for use indoors, as well as the fact that they can generate a lot of heat towards the “ground” which will scorch a table, possibly causing fires. The cartridge stoves use pre-packages canisters (or cartridges) of compressed gas, usually butane, propane, or a mixture of the two. The mixture and the size/shape of the canister are usually proprietary, meaning you can't fill them yourself, and they are often only available from specialty (outdoor) stores. For extended use, you'd have to have a quantity of cartridges on hand, which is expensive and takes up space. The big advantage of the cartridge stoves is that they are very easy to use, and most now use built-in igniters, so you don't need matches. Some of them might be safe for use on table tops, although with both kids of backpacking stoves, ventilation is a big issue. They should not be used in any closed space.

Either of these solutions is easily portable enough to add to a CERT bag or 72-hour kit.

Fairly portable

Slightly larger are the typical “car camping” stoves, such as the well known “Coleman stove”. These are designed to use small propane bottles, which are cheap and readily available from outdoor stores, Costco, or even some supermarkets. They can safely be used on table tops, although proper ventilation is a must. They are easy to use, reliable, and familiar. Cooking on a Coleman is very similar to cooking on a gas range at home. Many Coleman-style stoves do not have built-in igniters, so check yours out. You may need to store matches with it.

These stoves can also be used with larger, free standing propane tanks such as those common on backyard grills. An adapter is required (less than \$10) to hook up to those

tanks, but a typical BBQ sized propane tank will run a camp stove for close to a week of moderate use at three meals a day.

The big brother to the Coleman stove is the “chili cooker” (turkey cooker, crawfish boiler, etc). This is usually a single burner, sometimes two, designed to boil lots of water very quickly. They provide a lot of heat, and allow you to cook very quickly, but are heavy, and use a lot of fuel. They require a stand-alone propane tank, which is also heavy. They are a good choice in case you are stuck at home without power, or cooking at a shelter, but not really portable enough for a 72-hour kit.

Less portable

Open hearth cooking, such as over a wood or charcoal fire, is probably the last choice for emergency cooking. The big advantage is that it’s very reliable. Wood and charcoal burn very reliably, and most people are familiar with how they work. On the other hand, they produce a lot of smoke, cannot be used indoors, are messy, and the fuel is bulky and must be kept dry. Possibly even more important is that most people are unfamiliar with cooking over an open hearth (except a BBQ), so unless you practice ahead of time, you will end up with an awful lot of burned food, and possibly some burned fingers as well. Since wood and charcoal both take up a fair amount of space, they are probably most applicable to the disaster at home scenario. Many people have charcoal BBQ grills, and they are easy to use. If you plan on storing charcoal for emergency use, I’d suggest you get some real charcoal, not briquettes. If briquettes get wet, they not only become completely useless but make a huge mess. Real charcoal can be dried out, and it’s less messy. You also get a hotter, less smoky fire which isn’t full of petrochemicals. On the other hand, it’s harder to light than briquettes, and takes longer to heat up to cooking temperature.

Wood fires are much more difficult to cook over, and require stronger containers. A hardwood fire may burn right through the bottom of a cheap charcoal grill designed for briquettes (it’s happened to me). On the other hand, one advantage of wood is that you can burn wood directly on the ground, which is impractical with charcoal. If you store wood for emergency use, get good hardwood. The cheap pine and softwood that many people keep for use in “show” fireplaces is terrible for cooking, very smoky, and will quickly be gone.

Also in the less portable column is the back yard gas grill. They are familiar and easy to use, many include a separate burner over which you can put a pot, and many people already have them. On the downside, they are not practically portable, must be used outside, and perform very poorly in bad weather. If you have a gas grill, you’d be better off investing in a bulk adapter and a Coleman stove so that you can use the tank from your grill in an emergency.

Fire lighting

The best way to start charcoal is with a chimney started. This is basically a big metal tube with a handle on the outside, and a screen partway up. Paper goes under the screen, charcoal goes over the screen, very hot fire happens, and the charcoal gets lit in a very even way. Lighter fluid works, but it’s gross, dangerous, and makes your food taste yucky. Lump charcoal can also be started by adding it to a small wood fire, made with scrap wood.

To start a fire with wood, the tried and true pyramid or log cabin techniques are good if you have matches. If you are packing them in your emergency supplies, get waterproof matches, which will work even if damp, which kitchen matches will not. Cigarette or BBQ lighters also work, but tend to run out of gas right when you need them. Some cigarette lighter won't work if not held vertically, which can be an additional challenge. Another option is the magnesium rod based solution such as the Blast Match, or similar "survival" tools. These involve a magnesium rod mounted on a spring, inside a plastic case. When you push down on the case, you get a shower of magnesium sparks which will cause just about anything to catch fire, even if it's damp. You can also get "survival" knives that come with magnesium rods, and the knife can be scraped along the rod to produce a similar effect.

Not portable

Keep in mind that, although modern gas ranges all use electric igniters, most of them can still work just fine when lit with a match, so if you are home without power they are a good choice. Free standing wood or gas stoves used for heat can also be used to cook on in most cases if you can get them lit without electricity. I would not recommend trying to cook inside a wood burning fireplace unless you really know what you are doing. Without the proper equipment it can be very difficult if not dangerous.

In summary

As we have seen, there are a great number of options and variables involved in "survival cooking". You will need to assess your needs and requirements and balance them against your available resources. Are you planning to deploy as part of a CERT team? If not, don't worry as much about portability. Do you have room for a 55-gallon drum of water? If so, freeze-dried food may be the way to go. You may find that you need to plan for all three scenarios, and keep separate stashes in your CERT bag, 72-hour kit, and pantry. Do you already own camping equipment? If you do, you may already have the stove or other cooking equipment that you need. Will you remember to swap out perishables every 6 months, or would long-term storable food be a better choice. I hope that this article has given you the foundation you need to form a plan and be better prepared for whatever comes your way.

References

Web sites

- Nitro-Pak (<http://www.nitro-pak.com>) Lots of great supplies including Mainstay and Datrex rations, 10 year vitamins, etc. Also, lots of options for solid fuel stoves.
- Survival Unlimited (<http://www.survivalunlimited.com>) Mainstay and Datrex rations and water, plus lots of information on Mountain House and AlpineAire freeze-dried foods. Lots of water storage solutions.
- REI (<http://www.rei.com>) Purveyors of fine (if expensive) camping equipment. Good source for stoves, lightweight cookware, etc. Check out the folding plastic cups, bowls and plates.

- For examples of boil-in-the-bag Indian food (my pantry staple) see TastyBite's website (<http://www.tastybite.com>). There are other brands available as well, but their site will give you the idea. Good local sources are Trader Joe's, New Seasons, or Indian grocery stores like India Imports (cheapest I've seen) or India Direct.
- GI Joes (<http://www.gijoes.com>) Local chain that has Mountain House food, water purification tablets and filters, light weight cookware, storm-proof matches.
- Survival Today (<http://www.survivaltoday.net/>) is a good blog that occasionally has food related topics.
- For non-electric gear to help you weather an emergency, check out Lehman's Non-Electric (<http://www.lehmans.com>). Great stuff.

Local resources

- For real lump charcoal, check out New Seasons (<http://www.newseasonsmarket.com>) or HomeTown hearth and grill (<http://www.hometownhearthandgrill.com>). HomeTown does (or at least did last time I was there) have the cheaper Green Egg brand.
- You used to be able to get cheap 55-gallon food safe barrels from Yoshida's (that makes the teriyaki sauce) from their plant out by the airport. They've been bought out by Heinz, so I don't know if that's still true.

Books

- For hardcore survival cooking, check out the works of [Tom Brown](#), the master of outdoor survival literature.
- To learn how to cook over a fire, start with books on [cooking with cast iron](#). Most of them teach you how to use cast iron over an open fire or charcoal.