

Source: https://solarcooking.fandom.com/wiki/Guidelines_and_cooking_tips

Guidelines and cooking tips

General guidelines

- After a bit of experience, you'll see how readily you can adapt your present cooking and baking to solar cooking. Using the solar cooker can actually reduce the total amount of effort in meal preparation. Also cooking outside in the summer allows you to eliminate extra heat in the house. With solar cooking, you start your meals early in the day and then relax. At lunch or later in the afternoon or evening, when you're tired after a day of work, the sun will have cooked your food.
- Most food, except cookies and open-faced cheese sandwiches, are cooked in containers with the lids on. Cooking vessels should be black or very dark in color. There are many types of black and dark pot finishes available, including some on lightweight pots for backpacking that nest. One good choice for home solar cookware is dark speckled graniteware. (The 9-inch round roaster makes a beautiful round loaf of bread). Be sure to use hot pads when removing the pots from the oven; the pot will be very hot!
- If this is your first attempt at solar cooking, start with something easy such as chicken, rice, zucchini, or quick bread such as banana bread. Baking potatoes is also easy, but don't wrap them in aluminum foil; just put them in a dark covered pot without adding any water.

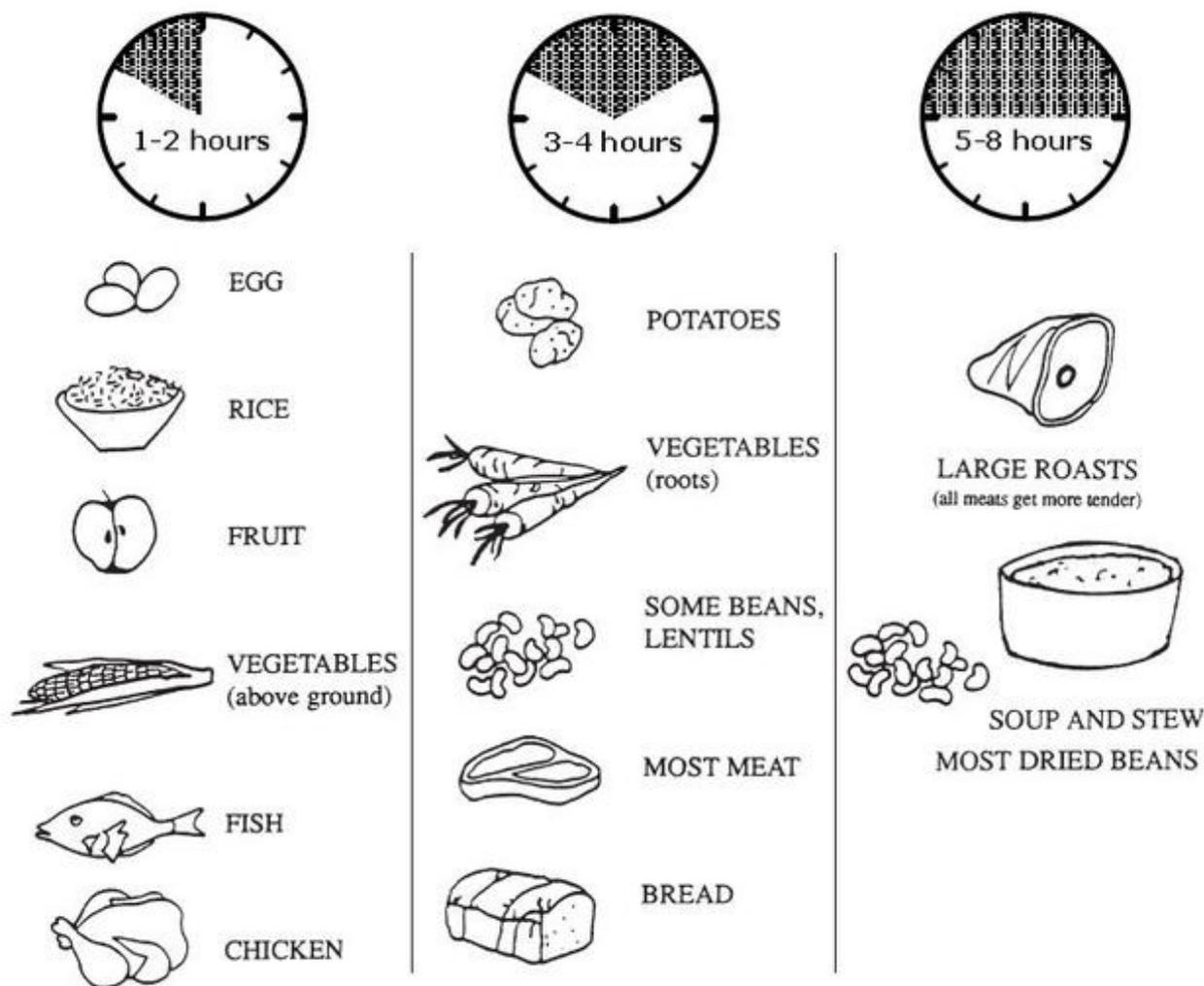


An inexpensive 3-liter roaster. For more information, see [Solar cooking pots](#).

- Food such as roasts, stews, casseroles, poultry, potatoes, carrots, pot roasts and rice are almost impossible to overcook; therefore, the timing on the food is not critical.
- Chicken will still be juicy and will fall of the bone when solar cooked four hours instead of the needed two hours. The major advantage of solar cooking is the flexibility in cooking times. You can remove the food any time after it is done. Cooking chicken too long will result in a mushy consistency.
- In cooking fresh fish, you can judge when the fish is cooked thoroughly when juice begins to drop. If you cook fish on a rack, it is easy to see this change. Then check to see that the fish is cooked to the bone in the thickest part.
- For best results, do not overcook the following food: green vegetables, cookies, cakes, and bread.

- Use dark covered pots or pans with tight fitting lids. With rare exceptions (e.g., cookies) the lid is kept on the pot while cooking. Dark baking pans can be purchased in pairs so one can be turned upside-down for a lid. Secure with binder clips.
- The golden rule of solar cooking is: **GET THE FOOD ON EARLY, AND DON'T WORRY ABOUT OVERCOOKING.**
- You do not need to stir food while cooking. However, it's OK to check the food if you quickly replace the lid. One exception to this rule is if you are cooking an exceptionally large mass of something very thick, in which case it can be a good idea to stir at least once after clear signs of steam appear, with the goal of moving the cooler middle of the food towards the side of the pan and the hotter food against the sides into the middle.
- Place the hard-to-cook or larger quantity items in the back of the cooker where they will receive more direct sun. When using several pots, place the easy-to-cook food in the front of the cooker.
- The solar oven pots will be hot! Use potholders when removing lids.
- To keep the food hot after the sun goes down, add several bricks or heavy stones when you begin cooking. To maximize heat retention, lower the reflective lid onto the glass, and cover the cooker with a blanket.
- If you are unable to cook in the early morning or evening, then cook during the midday to save firewood/cooking fuel. Then used a small portion of the saved fuel to reheat the food right before eating breakfast or dinner.
- Many meals may be cooked without refocusing, and you will learn by experience. Just face the cooker so that halfway through the cooking time the sun will be right in front of the cooker with the prop stick casting a shadow on the proper stick holder. With lots of food, or on less than fully sunny days, refocus the oven once or twice.
- To bake cakes or bread in a solar box cooker, preheat the cooker for at least ½ hour before adding the food.
- If you are cooking a large amount of food, it will cook more quickly if distributed between two or three smaller pots instead of one large pot.
- Several small, uncovered bowls may be placed inside a large covered pot to cook.
- Leftovers are easily reheated in the solar cooker.
- Most recipes take slightly less liquid when cooked in a solar oven.
- Time for cooking depends on the temperature of the food as it is placed in the oven, as well as the brightness of the day.
- Allow plenty of time. Foods hold well in the solar oven without scorching or drying out.
- Focus oven and check food about once an hour when you're just getting started. Later, you'll relax and tend the cooking only once every two or three hours.
- Most recipes calling for a higher temperature will do fine if you give them more time.

Here are some typical cooking times for 4 pounds (2 kilograms) of food on a sunny day:



Guidelines by food type

COOKED DRIED CEREALS AND GRAINS - (barley, corn, millet, oats, quinoa, rice, wheat): 2 hours.

Start with usual amount of water. Next time adjust to your taste. If your sky conditions are less than ideal, you may have better luck if you preheat the water and grain separately, as suggested for pasta. This is especially helpful if the grain is either very slow to tenderize (brown rice, hulled but not pearled barley) or gets mushy easily (quinoa, millet). To learn about using barely-sprouted grains and beans, which take to sun cooking very well, see Sprouting seeds and grains.

See also Rice and Hard porridge.

VEGETABLES - Add no water. Artichokes: 2 1/2 hours; Asparagus: 1 1/2 - 2 hours; Other fresh green vegetables: 1-1 1/2 hours. If cooked longer they will taste fine but lose their nice green color.

Beans - dried: 3-5 hours. Usual amount of water, can be soaked ahead of time; Beets, Carrots, Potatoes and other root vegetables: 3 hours. Cabbage, eggplant: 1 1/2 hours if cut up. Eggplant turns brownish, like a cut apple, but the flavor is good; Corn on the cob: 1 - 1 1/2 hours. The corn

kernels will fade slightly if left longer in direct sunlight. The husk will hold the moisture in and protect the kernels naturally. A clean black sock can be put over an ear of corn to help absorb heat for faster cooking time. Squash, zucchini: 1 hour. Will turn mushy if left longer.

Dave Oxford's recommendations on adding water to the pot: The difference is in the heat transfer medium - boiling water, condensing steam, and hot air respectively. The three methods produce different results, and have different efficiencies. Boiling takes longer because there is more water to heat to boiling point, and leaching can take place. Steaming is more efficient, because we can get away with using less water. Baking is the least efficient, and tends to dry out the veg, though if this is done inside a tube cooker, some steaming is inevitable, too. Boiling offers an opportunity for even deployment of salt, and baking allows browning and caramelising to occur.

EGGS - Add no water. Two hours for hard yolks. If cooked longer the whites turn brownish, but the flavor is the same.

MEATS - Add no water. If cooked longer they just get more tender. Fish: 1-2 hours; Chicken: 2 hours cut up, 3 hours whole; Beef, pork, etc.: 2 hours cut up, 3 - 5 hours for large pieces; Turkey, large, whole: all day

PASTA - Heat water in one pot and put dry pasta with a small amount of cooking oil in another pot, and heat until water is near boiling. Add hot pasta to hot water, stir, and cook about 10 minutes more.

BAKING - is best done in the middle of the day (10 am - 2 pm) Breads: Whole loaves - 3 hours; Cakes: 1 1/2 hours; Cookies: 1 - 1 1/2 hours and do not need to be covered. Avoid bottom crusts - they get soggy. Takes a while for the heat to work through, but with the sock to dull the foil it eventually will, and the sun makes wonderful fresh garlic bread.

Main article: Solar restaurants and bakeries

SAUCES & GRAVIES MADE WITH FLOUR OR STARCH - Heat juices and flour separately, with or without a little cooking oil in the flour. Then combine and stir. It will be ready quickly.

ROASTING NUTS - Bake uncovered. Almonds: 1 hour, Peanuts: 2 hours.

SUGAR CARAMELIZATION - Sugar may be caramelized in a pot/pan, or in a box cooker. The usual temperatures in standard cookbooks can be a bit too high for solar cooking; the slow heating of solar cookers means more time is spent at a given temperature, so various stages of caramelization actually happen at lower temperatures than on a conventional stovetop. Roughly, browning (in a box cooker) begins at 140 °C (284 °F). Once the temperature starts to get above 149 °C (300 °F), the sugar will start to burn.

[Some guidelines originally published in Solar Cookers: How to make, use, and enjoy, published by Solar Cookers International, 2004]

High altitude adjustment

The temperature of boiling water is reduced as the altitude increases. For instance, the boiling temperature of water is only 95 °C (203 °F) at 2000 mt (6561.7 ft). and this slows the cooking. Dried beans may be difficult to cook at high altitudes because of this effect. You may try cooking your food in darkened canning jars with regular canning lids and rings tightened. The rubber seal allows excess pressure to be released but a low increase in pressure is retained and speeds cooking. We only recommend standard canning jars and lids as they are designed for pressure.