

# The All Season Solar Cooker Advantage

How to adjust the ASSC to make full use of  
the sun - from sunrise to sunset.

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All Season Solar Cooker

## Advantage - All Season Solar Cooker

The advantage of the All Season Solar Cooker is that it can collect sunlight the entire time that the sun is visible - sunrise to sunset.

There is no magic in the physics of solar cooking. The more sunlight you collect, the more you can cook. Both the size of the cooker and the length of time that the cooker is able to collect sunlight determine how much you can cook.

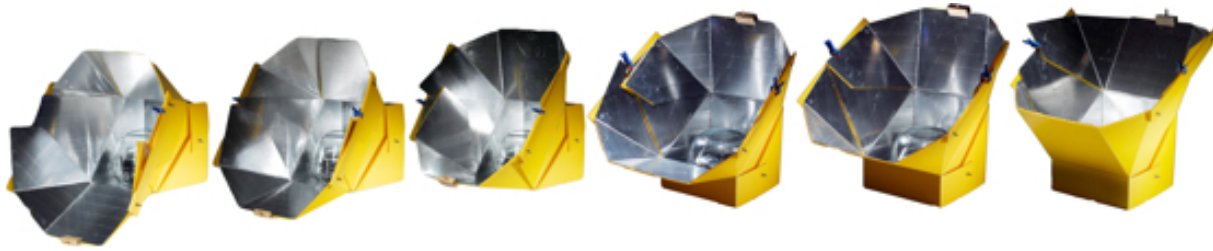
Solar cooking principle # 1 - the larger the cooker, the more you can cook - at any given moment

The size of the solar cooker determines the amount of sunlight that you can collect at any given moment. A larger cooker can collect more than a smaller cooker. Therefore a larger cooker can cook more food than a smaller cooker. Think of it like two hoses. A



garden hose and a fire hose. Given the same water pressure, the fire hose will deliver much more water than the garden hose. Same thing is true for solar cooking. Given the same quality of light (water pressure) a larger cooker will cook more than a smaller cooker.

Solar cooking principle # 2 - the amount of time that a solar cooker can collect sunlight will determine how much food it can cook.



Many solar cookers are designed to collect the sun only during the “optimal” solar cooking window of 10 a.m. to 2 p.m. Some are designed with tilting mechanisms that will improve solar focus. Some are designed with a gimbaled shelf so that food will remain level during tilting. Those cookers are designed to collect sunlight only part of the day. Although they work very well, most cookers do not take full advantage of available sunlight and, therefore, provide less cooking capacity than they could.

The amount of food that you can cook with any given solar cooker depends on the ***size*** of the cooker and the ***how long it is able to collect sunlight (duration)***. A cooker that can collect sunlight for 12 hours will cook more food than the same size cooker that can collect sun for only 6 hours.

The advantage of the All Season Solar Cooker is that it can collect sunlight the entire time that the sun is visible - sunrise to sunset. In summer months, this means up to 16 hours of cooking time. In winter, depending on your latitude, it gives you the ability to cook, where other designs would be put away for the season.

During monsoon season, when there are sunny mornings and rainy afternoons, the All Season Solar Cooker allows you to make the best use of the sunlight - no matter what time of day that sunlight is available.

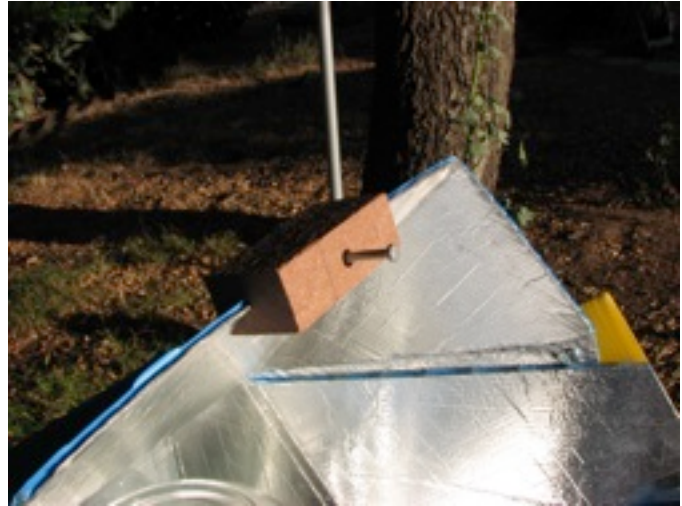
The All Season Solar Cooker can be adjusted to focus on any solar elevation. Whether it is just breaking the horizon or high overhead, the ASSC can collect the light and turn it into cooking energy.

The following pages will show how the All Season Solar Cooker is adjusted to take full advantage of all available sunlight.

To begin, we need to know if we are, in fact, focused on the sun. The All Season Solar Cooker uses the simple Sunsight to prove solar focus. The ASSC is rotated on its base and the articulating, coordinated reflector array is adjusted up or down until the pin on the Sunsight resides within its own shadow.

### The Sunsight

The Sunsight is a solar focusing tool. When the pin of the Sunsight is within its own shadow, as shown, the All Season Solar Cooker is in optimal solar focus. Here, we see the ASSC focused on a solar elevation of approximately  $5^\circ$ . The sun has just risen over the horizon and the ASSC is achieving cooking temperatures.



Now that we know what solar focus looks like on the Sunsight, we can configure the ASSC for any possible solar elevation.

### Sunrise or Sunset

The ASSC is in “winter” configuration. Note that, even though the ASSC is in its full down position, the cooking floor remains level. The user does not tilt the ASSC. The user only adjusts the coordinated reflector array.

In “winter” configuration, the ASSC can focus on a solar elevation of  $0^\circ$  up to  $50^\circ$

Winter Floor



### Side View Winter Configuration

The ASSC is set on its “winter” floor. We can see that the ASSC reflectors drop so low that we need to place it on raised platform to achieve full articulation of the reflector array. The elevation bar (yellow) is attached to the upper and lower reflector arrays. The elevation bar coordinates the focus of the upper and lower reflector arrays.



### Mid day

Here we see the ASSC on its summer, or mid day floor. The articulating, coordinated reflector array has been adjusted upward to focus on a high summer sun. When the summer floor is used, the ASSC can focus on a solar elevation of 40° to 90°.



Summer Floor

The advantage of the All Season Solar Cooker is that it can capture usable sunlight during the entire time that the sun is visible. The All Season Solar Cooker is inexpensive to build, light weight, collapsable and highly portable.

On any day, the All Season Solar Cooker offers more cooking potential than do designs that cannot focus over the entire solar elevation range.

Wherever you are, if you have sunshine, you can collect usable heat with the All Season Solar Cooker.

[www.allseasoncooker.com](http://www.allseasoncooker.com)

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A word to the wise...

Solar cooking, like all cooking, is serious business. To protect your health, you must cook food thoroughly. Whether using a solar cooker, a stove top, an oven, crock pot or a camp fire, you must be sure that your food is thoroughly cooked.

Regardless of the design of your cooker, if it is too small for the amount of food being prepared, or if it is unable to collect sunlight over a sufficient amount of time, you are in danger of undercooking your food.

Be careful. Use a food thermometer. Start off with small amounts of food and learn the capacities of your cooker. Get a few successes under your belt before showing off your cooker to friends.

Happy cooking