

THE PRESSURE PAN AND THE SOLAR COOKERS

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OBJECTIVE:

Arrange the use of the pressure pan with the solar cookers.

REASON:

The pressure pan is widespread in the developed countries (DC). Its use with the solar cookers will help the use of both ones; the pan and the solar cooker in underdeveloped countries (UC).

People of UC's observe the use and practices which members of DC's normally carry out and they try to imitate. Therefore, we should employ the usual pressure pan to make attractive the solar cooker to the DC's housewives. And so people of UC's will also use it imitating the others ones.



In the first stage the cooking is heated up to the working pressure (When the vapour goes out thru the valve) At this moment the contribution of heat is reduced, falling down significantly the furnished energy; although the temperature and the pressure are maintained constant. Only the needed energy and the production of vapour are reduced; and so the cooking goes on at high rate. As we have said, the times are reduced to less than one third of the normal ones. Therefore, if for a stew of chickpeas 4 hours are needed in a normal pan, the same one in a pressure pan is reduced to 1 hour and 25 minutes.

PRESSURE PAN:

Its advantage is to reduce substantially the cooking time and therefore the needed energy and water. It also achieves that foods better preserve their natural appearance and their nourishing qualities. Decreased of 70% in time and in needed energy are obtained because of the pressure increase inside of the pan closing it hermetically and adding a valve which regulates the pressure allowing the water vapour to go out when the working pressure is exceeded. These pans normally work to a pressure 1Kg/cm² higher than atmospheric pressure. As a consequence of this pressure the boiling temperature achieves 120°C, getting a quicker cooking and that the heat and the liquids penetrate more rapidly in the inside of the food.



SOLAR COOKERS EMPLOYED:

Two solar cookers of concentration have been used for the test: One parabolic known as K-10 and other one called Embudosol A-9. They were individually used or the K-10 in the first heating stage and the Embudosol A-9 in the second one. This use of the two cookers has the advantage of a better utilisation of the K-10 for other cookings.