

HOW TO MAKE FUEL BRIQUETTES WITHOUT A PRESS



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About half of the world's people use wood or charcoal for cooking and heating. Cutting of trees for fuel and for subsistence farming is resulting in loss of 2-3% of the world's forests each year.

In some countries, buying fuel for cooking may take as much as half of a family's income, and many families can afford to cook only once or twice a day.

However, individual households can reduce their need for wood and charcoal by making their own fuel, called **fuel briquettes**, from waste plant materials in their own environment.



Fuel briquettes can be made from plant materials that normally go to waste, including sawdust, paper, charcoal fines, leaves, husks and other agricultural wastes.



These are fuel briquettes made with (L-R) mini-Bryant, Peterson and Lee Hite presses, a briquette made with a bottle mold, and a fuel ball made by hand.



In villages around the world, fuel briquettes are being made with a wood or metal press such as the large mini-Bryant or smaller Peterson presses shown here.

BUT WHAT IF YOU DON'T HAVE A PRESS???



YOU CAN MAKE BRIQUETTES BY HAND WITH A PLASTIC MOLD!

You can use a plastic bottle or other straight-sided plastic container about 4"-8" in diameter to shape the briquette. You will need a piece of wood or banana plant stem or a tin can that will fit into the container as a piston to press water out of the briquette mix, a knife, a plastic bag and some wire.



First, prepare the briquette mix. Soak torn-up waste paper in water for one or two days to soften the paper and release the fibers, which will bind the briquette materials together.



Rub the soaked paper between your hands until it looks like soft porridge and no pieces can be seen. This takes time! Do it well!



You can use a mortar and pestle or a tool for pounding to speed up processing of the paper.



Measure out 1 part of soaked paper to 3 or 4 parts of sawdust. Paper plus sawdust are the simplest mix, but you can add rice husks, charcoal fines, chopped grass and leaves, pine needles and other materials. Use roughly 20% paper.



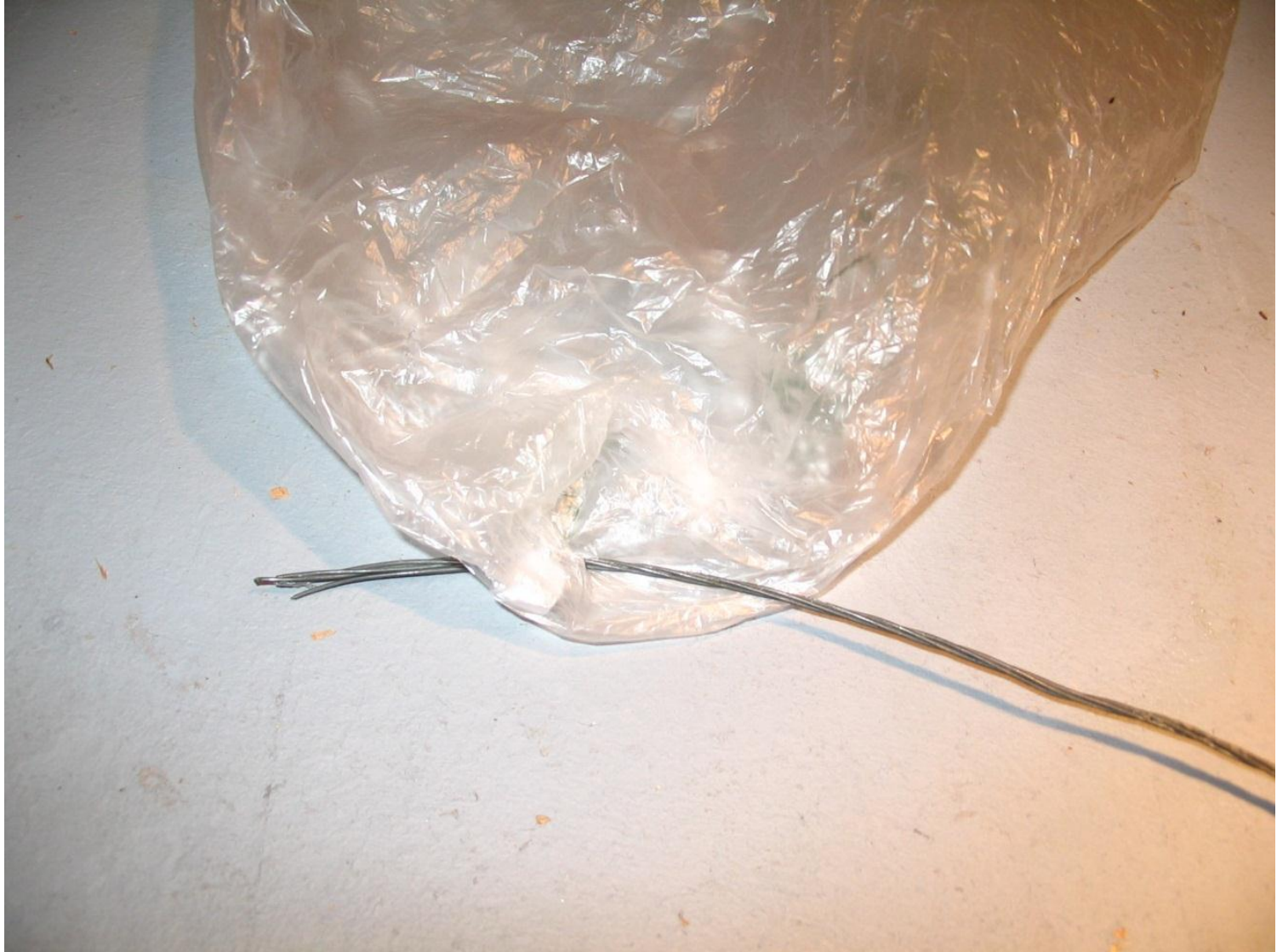
Or, instead of using paper, you can boil cassava flour or cassava peels until they are very soft and add enough of the paste to bind the sawdust together.



Mix the paper with the sawdust and enough water so that the mix will hold together when it is squeezed.



Make about a dozen drainage holes in the bottom and lower sides by burning holes with a hot wire.



Prepare a thin plastic bag to use as a liner to get the finished briquette out of the bottle. Punch about a dozen drainage holes in the bottom and lower sides of the bag so water can drain out.



Instead of a bottle, you can use a container with tapering sides such as a bucket or a plastic flower pot for the mold and a second one as the piston. The flower pot already has drainage slits around the bottom, and slits have been cut in the bottom edge of the bucket in the photo. Be sure to use a plastic liner with drainage holes.



Put a big handful of briquette mix into the plastic bag and insert the bag into the bottle mold.



Add more mix to the bag and press out water with a can or with a piece of wood or banana stem that fits into the mold.



Put the mold on the ground or floor and stand on it to press out as much water as possible.



Pull the bag out of the mold and remove the briquette.



Dry the briquettes in the sun for 3-7 days. Briquettes that are not dry will smoke when they are burned, so dry them well!



If you don't have a mold, you can make fuel balls by squeezing the briquette mix into balls with your hands. Dry them in the sun.

We have shown how an alternative fuel for cooking can be made by hand from waste paper and sawdust using a simple plastic mold for shaping the briquettes or by making fuel balls by hand.

Please help spread this basic fuel briquette technology wherever finding wood for cooking is a problem. **Help people cook, and reduce the cutting of trees for fuel!**

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