



Charcoal Production Practices

- 🔥 Use an axe and a panga (slasher) to harvest wood.
- 🔥 Separate wet and dry wood, thick and thinner wood as well as lighter and heavier wood. (Refer to Figure 1)
- 🔥 As soon as you have gathered 600 - 800 kg of wood the combustion process can start.
- 🔥 Place dry grass and thin branches on the ground as well as 4 bricks so that the kiln can be placed on top.
- 🔥 Add more grass and thin branches at the bottom of the kiln after the kiln was placed on the bricks.
- 🔥 Start packing the thicker pieces at the bottom of the kiln on top of the grass and thin branches.
- 🔥 Fill the kiln to the top. Do not put the biggest pieces on top! Do not pack any pieces that will stick out of the kiln and prevent the kiln from being closed with the lid.
- 🔥 Taking the direction of the wind into consideration start the fire at the side where the wind is blowing from.
- 🔥 Let the kiln burn/smoulder with the lid 50 – 70% open. Please note no wood must stick out of the kiln.
- 🔥 Let the fire burn at full force for 40 minutes.
- 🔥 After the first 40 minutes, seal the kiln at the bottom using sand all around it.
- 🔥 Start opening always 2 holes in the sand so that there is a draft. Close these holes after 15-20 minutes and open holes on the next line. Use the cross method for controlling the fire. (See Figure 1: Cross-over pattern for controlling temperature)
- 🔥 After 3 hours add more wood to the kiln. Do not use thick pieces. The wood must be smaller than the pieces used when the burn process started.
- 🔥 Continue to control the heat in the kiln using the cross-over method.

- 🔥 The burn (pyrolysis) process should be completed by latest 3 hours after adding the wood. This means if you started at 8 o'clock the kiln will be closed 3 o'clock in the afternoon.
- 🔥 Seal the kiln at the bottom as well as the lid, so that no air can enter the kiln.
- 🔥 Allow the kiln to cool down overnight.
- 🔥 Kiln can be opened before sunrise the next day. Should there be extreme heat, we advise that you leave the kiln another day. In cool weather it is fine to open the kiln the next morning. Take care that the charcoal does not catch fire after you opened the kiln.
- 🔥 The kiln should be supervised until it is sealed to prevent the spreading of veld fires.
- 🔥 Do not open the kiln before it has properly cooled down.
- 🔥 When kilns are opened the charcoal is raked into a more open circle to air it, and cooled down completely for **2 weeks** before it is packed in bags, ready to be sent to processors for further packaging or distribution.
- 🔥 Charcoal is then separated from sand & ash by sieving it with a sand sieve, thereafter it can be sieved again with a 20/25 mm sieve, to remove the fines/fine charcoal. The last step is often undertaken by processors.

Valuable hints to improve the quality of the charcoal:

- 🔥 When the wood is wet, meaning freshly harvested, chop the wood into 20 cm pieces. This will provide bigger pieces of charcoal as the water will evaporate at the ends of the pieces and won't crack in the middle of the wood.
- 🔥 Allow the wood to dry for at least 4 weeks. This will burn the coal much faster. This also means that due to the decreased amount of moisture, less smoke will be emitted, making the burning process more environmentally friendly.
- 🔥 Sort the wood pieces into more or less equal lengths and widths, do not mix big stumps with thin branches as the thin branches will burn to ash before the bigger pieces are charred properly.
- 🔥 Do not mix Mopane wood with other types of wood as Mopane has different characteristics.



Figure 1: Sorting wood according to thickness and length as well as type

Opening 1 and 2 are opened together and after 15-20 minutes closed again. You will then open 3 and 4. This process needs to be repeated until the kiln is sealed completely.

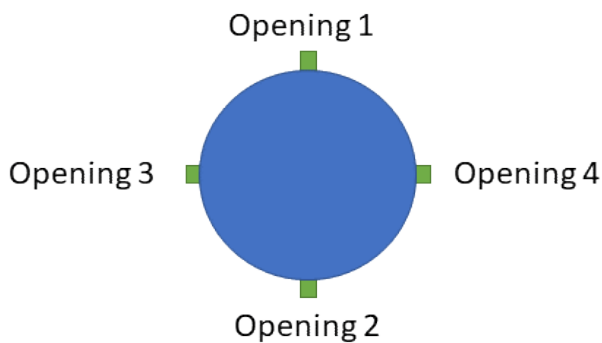


Figure 2: Cross-over pattern for controlling the temperature

Amended procedure for producing charcoal in the rainy season

We do not advise producing charcoal when it is wet as the charcoal will be soaked with rainwater and the moisture content will be too high. Processors will charge extra for the drying procedure.

If you have to produce charcoal, please follow these guidelines:

- Once the charcoal burning is completed and you have sealed the kiln, let the charcoal cool off in the kiln for at least 5 days. This will help to keep the moisture and water from the charcoal.
- Only open the kiln if it is not raining and pack the charcoal into large bags so that it can immediately be stored in a dry place.
- Do not put the charcoal bags on bare soil as it will become moist again and you will exceed the acceptable moisture level.
- A good practice is to put the charcoal on wood pallets or on old tyres. Ensure that the charcoal is then also covered with a canvas that will not let moisture through. You can also place a thick plastic sheet on top of the tyres and/or pallets and then pack the charcoal bags on top. Cover it again with a proper canvas.
- Charcoal needs to rest for 3 weeks before it can be transported for exports.

Cluster burning image

- Please note that as from 1 May of each year cluster or central burning is compulsory. Failing to use this method might result in suspending your permits. This means you will not be able to harvest and/or produce charcoal.

