

Growing together

Smallwoods

Spring 2024 | Issue 94 | £8 if sold

smallwoods.org.uk

Buried treasure

A step-by-step guide to
making charcoal

Tree health
matters

Rewilding
Law Hub

Travisher
review


SmallWoods

Baking black gold



Give it a go!

Archaeologist and historian **Alex Langlands** shares a step-by-step guide to an ancient method of creating charcoal

It was great to be a part of the inaugural Charfest set up by a team at Craig Gwladus Country Park. Enthusiasts from all over South Wales met with local community members to take part in a series of charcoal burns, and associated crafts, to share knowledge and ideas, and to explore how the activity could grow in the coming years.

I'm an archaeologist and I have a major interest in charcoal burning. Put simply, there wouldn't have been an Iron Age without it. Charcoal has been an essential component in the development of technologies across the world and it continues to be adopted and adapted for a range of uses in the present day. It is something that anyone can have a go at, a fantastic social experience, relatively energy-clean, and it gets you outside and physically engaged with the natural world, and our distant past. The best thing about doing a charcoal burn in a traditional way is that you don't need a big iron kiln. The same effect can be achieved with a mattock, shovel, grass hook, and a good bit of old-fashioned graft.

Preparation

Firstly, the most important thing to do is to make sure you have a good surface and enough space, not just for the burn, but to move easily around it. This can be achieved by grading out the topsoil and a good amount of subsoil from a circular area, giving yourself at least a 1m halo around the "clamp," where the charcoal is made. What you'll create is a platform and a whole bunch

of earth that you'll be using later. Good preparation is really important so make sure you have enough earth to cover the clamp. Grading out a platform will produce a good amount, but you'll likely need some more from somewhere.

If you are doing a biochar burn for fertilising your vegetable patch, import the soil direct from the beds. Once the burn is done, you can mix it all up on the platform before barrowing it back to the patch. If you are doing a burn for charcoal for barbeques or smithing, then it is worth importing some soil in to use permanently on site. Remember, it can be re-used for every burn!

Gather matting

You'll also need a big pile of organic matter with which to create the matting. This shields the burn from the soil. As ever, thinking seasonally is your best ally in this endeavour. Cutting and bundling material like bracken, nettles, or long grasses, is best achieved in the early summer – when it is at its peak – because it has good bulk at this time of year. Pile it up next to the burn site for use later in the year. Failing that, head out before you start the stacking and make sure you've got enough material to cover it.

Finally, make sure you've got supplies (food, drink, etc.) close to hand and some warm clothing so that you can regularly attend the burn as it is in progress. A good seat is essential, some kind of craft activity desirable, and try and rehearse a few tall stories to regale your fellow-burners with.



1 You'll need to prepare the wood into "billets" of around about 12ins/30cm long and circa. 2-3ins/4-6cm wide. Obviously, the better seasoned and dried the wood is, the easier the burn is to manage.

If the ground is wet and really cold, it might be an idea to lay some old board down to build the central flue off of and insulate the fire while it gets started. I used some skirting board off-cuts I had lying around. For my experimental burn, I was really concerned about the cold and damp, and the quality of my wood, so I set an iron flue pipe into the ground and ran it to the centre of the clamp – just in case I needed to get some air in to get the centre burn started. (It turned out, I didn't!).

2 To build the central flue, separate out some of your cleanest split billets – i.e. those that have an even thickness their full length. Take three and set them in a triangle around the centre point of the clamp. Then, take another three and set them again in a triangle but at an orientation of 45 degrees. This will have the effect of creating a Star of David, with a central hexagonal-shaped flue. Continue stacking in this manner up to a height just short of the top of the clamp. This clamp pictured was about 2ft/60cms high with a diameter of around 4ft/120cms, but you can choose to make it bigger.

Over the top of the flue, place a relatively tall log, as if to cap it. Then, stack your billets vertically against the central flue, working round it and ensuring close contact between each billet and the ones it stands alongside. For the roof of the stack, lay billets horizontally, radiating out from the centre. It is a good idea to get the most uneven and angular of your billets for this process because they can be laid fat end out. It is worth trying to get a bit of a pitch on this roofing of the clamp, sloping it down from the centre of the flue.

3 When you are happy with the shape of your stack, start laying your matting material on. Try and do this in a methodical way, starting at the external base and setting even handfuls against each other, building up a nice even and thick coat. Continue this right up to the log sitting over the head of the flue. I can't stress enough that this mat needs to be as thick as is feasible and well compressed down.

4 Then comes the placing of the earth on the kiln. Again, start at the base and evenly lay shovelfuls, tamping and packing it as you go along, working your way up to the log at the top. My earth was very full of organic matter and, in retrospect, a bit too much air was passing through it. So, try and get the earth as clean and fine as possible or, if it has come from your veg patch, pack it down with the back of the shovel to restrict oxygen ingress. Keep some earth and matting material back for the final capping.

5 All the while, make sure you've got a good fire burning close to hand because to charge the clamp, you'll need a good lot of embers. To insert these, remove the log capping the flue and pour the embers in to as much as half the height of the flue. Then, insert a closely-packed – or bound – bunch of straight sticks, filling out the width and height of the flue. Personally, I like to get a good burn going to start with and only when these sticks are taking a good flame do I place a generous layer of matting over, and cap with earth. The clamp should immediately throw out a thick rich smoke.

6 Now, it is wait and watch time! It may be that it's a still day with not too much breeze. Without much of a draught, you may need to work some holes into the earth and matting to let some air in. This can be done with a sharpened stick. If you feel like the fire is dying, because it is suffocating too much, methodically work your way around the clamp, piercing it with small holes for a short period, before closing them down again. Be careful though. If the wind picks up and you've holes on the windward side, the clamp will draw through these and the burn will get too hot. As the burn slowly shrinks the clamp, you'll also need to keep an eye out for any gaps opening up in the earth as it slumps down. Keep casting it up, patting it down and tending it.

 Turn over for the final step



7 When the burn is finally done, after about 24 hours, you'll need to excavate it in a delicate manner. I'm an archaeologist and so I am used to peeling back layers of dirt from the deposits below them. So, use a smallish trowel and slowly scrape back the earth from across the charcoal layer. Again, be methodical. If you've done your job well, you should have a finely burnt layer of matting still protecting the charcoal – so you avoid too much soil ingress into your black gold!

Good luck!

Charcoal burning in this way is extremely low impact, it can turn sustainably coppiced wood into an amazing fertiliser and a good burn can also provide you with a summer's worth of fuel for the barbeque.



Send us photos of your black gold

✉ editor@smallwoods.org.uk

Your checklist

- A large space
- Mattock
- Shovel
- Soil
- Grass hook
- Organic matter e.g. bracken, nettles, long grasses
- Well-seasoned and dried billets, approx. 12ins/30cm long by 2-3ins/4-6cm wide
- Old board/off cuts of wood
- Iron flue pipe (optional)
- Burning embers from a good fire
- A bunch of straight sticks
- Trowel
- Food and drink, warm clothing and a seat



About the author



Dr Alex Langlands is an archaeologist and a historian who is currently an associate professor of history at Swansea University. He also worked as a presenter and producer for BBC Two and Channel 4, on *Victorian Farm*, *Edwardian Farm* and *Wartime Farm*, and he is currently a co-presenter on Channel 5's *Digging Up Britain's Past*. Alex produced this article for Small Woods with support from the Arts and Humanities Research Council's Creative Communities programme, which explores how culture can address regional inequality.

Photos by Steve Chamberlain