

# Charcoal Making at Mission San Luis, Tallahassee, FL

by Will Manning & Rodney Reeves

## Why make charcoal?

We're using charcoal in the forge at Mission San Luis. Charcoal is locally available and produces substantial and clean heat for the forging of iron. In the process of producing charcoal, water and volatile gases are burned out of wood creating steam and smoke all at one time and place, leaving behind mostly carbon. When in use, the charcoal burns with no smoke, making it tolerable to be around all day long while forging, cooking or simply staying warm. (The Spanish were extremely weary of being around smoke, believing that it contributed to poor health.)

## Choosing, chopping, curing & stacking the wood

Ideally, so we've heard, you can use hardwood from which to make charcoal. If you search at all, it's pretty easy to find a tree that's fallen already so as not to contribute to deforestation in this day and age. We cut up a hickory tree that had fallen off site and let the manageably sized logs sit on end, outside for about five months before splitting with a hydraulic splitter. (In the late 1700s, both England & Spain mandated the switch of using charcoal to using coal from the earth. Due to iron production, blacksmithing, farming, building, etc., there were hardly any trees left and in order to remain in the blacksmith guild, you had to start using the dirty burning coal which is now the standard blacksmithing fuel.)

We split the wood into average campfire-sized pieces of wood. The wood was definitely not green, but certainly not cured all the way. Next time we want to split the wood soon after chopping it up and give the split wood more time to cure. At this point, our hickory was ready to stack. First, we created a raised depression (collier's pit) with fill dirt to protect artifacts in the ground but still have a depression in the ground to stack our pile in. We used a leftover pole (5' long x 8" diameter) from the construction of the forge and put handles on it to create a chimney peg; a post to stack the wood around that will later be removed prior to starting the burn and used as a chute for fire starting and also a chimney during the burn.



## Covering & lighting pile

It's important to control the burning of wood into charcoal by the amount of oxygen getting to the pile. A completely open & uncovered pile will certainly burn well; however, it will yield what your normal fire yields, ashes with few bits of charcoal. In order to produce charcoal you must cover the pile and somehow control the oxygen getting to the fire, similar to the making of char-cloth. In our research, people have covered their charcoal-to-be piles with just about anything. We chose Spanish moss as the first layer, which seemed to grip the wood pile providing a substantial foundation for the next layer.

With the moss in place and the heat index at 102F, we decided to finish covering the pile with a tractor load of "dirt" that turned out to be more like clay. This proved difficult as the sun was drying everything out except our sweaty clothes, and as more and more clay rolled to the base of the pile, we started wetting the clay into a pleasantly moist and warm mud that we could pack on the top of the pile. We circled the pile, building the layer of dirt from the bottom, spiraling up until we reached the top.

Upon reaching the top we scuttled up a couple of boards placed on the pile and pulled out the chimney peg, the piece of wood we stacked the pile around.

John Pfund and Rodney Reeves fired up the forge and started to bring chopped up fat-lighter, charcoal and hot coals over to the pile and pour those down the chimney hole. We made sure a definite fire was started to initiate our charcoal burning. This was around 1pm. Once we had a sure fire started in the center of the pile, we experienced the tell tale sign of



charcoal production, copious amounts of smoke pouring out of the chimney. So thick it blocked out the sun and darkened the sky above Mission San Luis- a true sight.

### The Burn

As the burn continued, we would see the smoke clear and flames shoot out until we closed one vent hole and opened another. The fire seemed to move around inside the pile, moving towards the open vent hole and charring the wood on that side of the pile (smoking out of the chimney until the wood inside was completely charred). Eventually the pile slumped and the clay cracked. We piled dirt on the cracks to cut off any excessive air flow as fast as we could so we wouldn't be burning away precious charcoal. Around 8pm a heavy rain came and collapsed half of the pile as the water made the brittle outside layer of dirt/clay heavy. We filled in major gaps leaving a central (and by now, enlarged) chimney hole for smoke to escape. At this point, based on the lessened intensity of smoke emitting from the pile, burning seemed to have been significantly slowed down by the collapse and further piling of dirt. We continued to close and open vent holes. Eventually the night was dark and the smoke output thin; in effort to save what charcoal was made, we decided it would be best to finally put out our burn. Once all the dirt we had readily available was on top of our burn pile and the pile peacefully sound, we packed up our belongings, rinsed the mud from ourselves and headed out for a much needed night's rest.



### The Harvest

Thinking a couple of days was enough time for the charcoal to cool off completely and the fire snuffed out, we returned to the burn site. Upon arrival, the pile had completely dried from the heavy rain and caved in further. The new cracks were just barely smoking very slowly. The disappointment set in, and concerned that our charcoal had burned away to ashes, we quickly broke the surface of clay to reach the fruit of our labors.

Success! Shovel loads of crispy charcoal were resting under a thick layer of clay that broke off in easily separated chunks. As we unloaded the charcoal, it clinked like glass and appeared weightless. It was like uncovering gold or a hidden treasure that you were hoping was there. We did notice immediately the immense heat still present in the depths of the pile of fresh charcoal. To keep the hot charcoal from bursting back into flames, but still continue our harvest, we decided to dunk our charcoal in water and then strain it before bagging it up. Our volunteers Skeeter Prather & John Pfund came out to help.



Skeeter gave us his approval! The charcoal we made lasted in the forge, five days a week, from the beginning of June, through July and to the end of August. For our next burn, we'll be more prepared and can hope for even more success. A bountiful charcoal harvest was second to our new found appreciation for the process & amount of labor involved with making charcoal.

