The Organarium

Early period jewelry uses bead wire, wire that looks like a string of beads. One Anglo-Saxon belt buckle that I was permitted to examine in the basement of the British Museum had a strand of bead wire running about sixty beads to the linear inch, paralleled by two strands, one on each side, running about 130 beads to the inch. The beadwire you can buy from a modern jewelry supplier is more like ten beads to the inch.

Theophilus, writing about 1100, describes a machine, the organarium, for making bead wire.
The figure below shows my interpretation of what he is describing. It consists of two metal plates. Each has two holes (K) drilled through it. Lengths of metal rod are soldered into the holes in the bottom plate, fit through the holes in the top plate when the plates are stacked, with the faces shown here facing each other. Each plate has a series of horizontal grooves, spaced as the beads of the wire are going to be spaced, rather like the face of a file. The side view shows the two plates assembled, with the matching grooves (top and bottom) combining to form holes.

Each plate has a series of lengthwise grooves (A-H on the diagram). The depth of A is almost half the diameter of the wire that is going to be made into bead wire. B is a little shallower, C shallower still. The depth of H is half the diameter of the neck of the bead wire, the marrow part between two beads.

To use it, you assemble the plates with the grooved faces facing each other, as shown in the side and end views. You put a length of wire in groove A, close the plates over it, tap the plates with a hammer, rotate the wire a little, tap, rotate, tap, continue until you have rotated it 180°. You now have a length of very slightly beaded wire, high under the horizontal grooves, low between them.

Move the wire to groove B, repeat. Continue until you reach groove H, at which point the beads are fully formed.

This is conjectural—Theophilus provides no figures. But I think it is consistent with his description and not too hard to make with medieval technology.