

## Dr Rebecca Heaton on the 'Living Willow Theatre'

We built the living willow theatre from fast growing varieties of willow - mainly *Salix viminalis* varieties. We used rods of between one and five years old. The five-year-old rods were fairly thick in diameter - up to about 8 cm, but despite this we planted them unrooted directly into the ground and nearly all of them have rooted and produced new growth. This exceptional rooting ability from rods is what makes willow so ideal for living structures.

Its other attribute is its fast growth. This means that just one-year-old willow can be 1.5 to 2 m tall, and yet as it is young growth maintain great flexibility so it can be woven around itself with very little need for ties. The older willow is less flexible, so for the large arches using 5-year-old willow, we had to consider the natural curves in the stems and accommodate those into the structure. We used lots of thin whippy rods to pull the whole structure together.

Willow hybridise freely, and has been the subject of much breeding work, originally for basketry where straight growth and colour was important, and more recently for biomass (burning for electricity and heat) - where quick fast growth is the key. Biomass willows tend to grow very fast and straight, and so are ideal for living structures. The basketry varieties do not get so tall, but have wonderful colour - demonstrated in the theatre with yellow and red varieties.

Long term, we would expect to see some damage from fungi and insects as lots of things like to munch on willow, but the mixture of varieties should stop this being too serious. We also hope to have the odd bird nest in the tall arches! The structure needs annual pruning and maintenance in the autumn and spring to remove dead wood, replant small areas, and weave in the new growth - volunteers always welcome!