

# The Mallow Strawbale House

## Rob Hopkins

*(originally published in Permaculture Magazine in 2001, who also gave this article its daft title!)*

*Rob Hopkins, permaculture designer and teacher, was asked by the organisers of the Mallow Homes and Gardens Festival to build a strawbale house to be the central feature of this year's festival. The finished house stole the show, and in this article, Rob explains how the house was built and the impression it left on those who visited it.*

It was mid-April that the Festival organisers asked me to build them a strawbale house, which had to be finished in time for the Festival at the end of June. That's quite a deadline! I explained to them that strawbale buildings don't like to be built in such a rush, that they need to settle before they can be plastered, but they said they wanted the house and could always patch up any cracks after later. We decided the best way to proceed was to run the wall raising as a course, and fixed the date for the first weekend in May.

The organisers wanted a circular building which was modelled on Ireland's first strawbale house, at the Ark Permaculture Nursery in Clones, Co. Monaghan. We worked up a design, drew up lists of materials and calculated how many bales we needed. Luckily we had a shed full of building bales which we had got for a different building project that never happened.

## The Foundations

The Festival organisers put the foundations in place, with a couple of people who wanted to do the course volunteering in exchange for the course. Due to the very tight deadline we used concrete blocks (see picture) and we filled the cavity with gravel, to allow any moisture in the bottom of the bales to drain away. We decided to take this approach after hearing many concerns about 'conventional' foundations for strawbale buildings where the top of the foundation is flat and is all covered with damp proof plastic, producing the possibility of moisture in the bales being unable to drain away and collecting at the bottom of the wall. In our system the tops of the blocks were covered in damp proof plastic and metal rebar pins put in place to hold the bottom course of bales in place. Time will tell if our approach was successful but we have every reason to believe it will be.

## Raising the Walls

On the weekend of 5th-6th May, 15 people from all over Ireland gathered to raise the walls. We started on the Friday evening with a talk and slide show about strawbale building and then on Saturday morning we were all raring to go. The building used the 'Nebraska' method, where the weight of the roof is carried directly on the walls. The wall raisers set to the task in hand with enthusiasm and there was a great atmosphere. Gionata,

an Italian living in Ireland, would serenade the bale-wielding hordes with the Italian pipes (very similar to the bagpipes) while standing on the top of the walls!

The window boxes were made using scrap wood from on the site and from the fourth course of bales upwards we used hazel coppice rods to pin the bales together. These were from an old coppice woodland near Bantry which is currently being revived and regenerated. Coppice hazel poles are infinitely preferable to their more industrial counterpart, metal rebar.

As the walls began to near the top, a couple of bows in the walls began to develop (due to what is known as 'bale frenzy!'). We knocked these back into place with a good degree of success. When we reached the seventh and final course of bales we lifted the roofplate into position on the walls and fixed it all around to make a continual plate. This was then strapped down to the foundation using stainless steel cables and pinned into place using hazel rods. All in all it had taken two days to raise the walls - not bad going for a group of people who had done very little building before!

### **The Plastering**

While the Festival crew set about putting the roof on, I had the unenviable task of preparing the building for plastering. This involved giving the house a 'haircut', that is, trimming all the loose straw to make it a consistent surface for plastering onto. The other job was to fix expanded metal lath around the windows for the plaster to adhere to. I started by doing it the 'traditional' way. This involved fixing the lath to the window frame, stuffing straw behind it and then 'sewing' it onto the wall using string and a bale needle. This is a horrible time-consuming job which is very frustrating because firstly the sharp lath keeps cutting the string so that you have to keep starting all over again, and secondly because the lath cuts your hands to shreds. In the end I got the process going much faster by making pins out of bamboo and using them to pin the lath into place. What I would do if I did it again would be to use an idea I got from Barbara Jones of Amazon Nails whereby you fix hessian sacking to the timber frame and then build up around the windows with cob to prepare a surface for the plaster.

### **Final Touches**

Once the walls were ready for plastering that was my part of the housebuilding finished. It was then over to the plasterers from Cor Castle in Innishannon, Co. Cork who were sponsoring the lime plastering and who ran two weekend courses on plastering. I was then away for 2 weeks, during which time the Cor Castle team and the Festival crew finished off the roof and the plastering as well as fitting the windows and doors.

In the run up to the Festival most of the press coverage was about the house. It generated a huge amount of interest, with all of the national dailies running articles on it (and yes, most of them did mention the bane of most strawbale builders' lives, the 3 Little Pigs!). Come the first day of the Festival the house had been fitted out with sheep's wool insulation from Triscle Heating near Macroom. The roof had been finished off with a

very neat turf roof with flowers planted in it, leading many to christen it 'The Tellytubbies' House'. The bulges in the walls that had caused us the sleepless nights now looked like they were meant to be there, giving it more character!

### **Open to the Public**

During the four days of the Festival I did four talks and slide shows a day about natural building in the house and was there to answer questions. The vast majority of the many thousands of people who came to the Festival visited the house. Some even travelled from all over the country just to see the house. Despite the fact that all of the publicity talked about the strawbale house, some people failed to grasp what that could mean. One man thought he was coming to see a house built of concrete blocks in the shape of a large straw bale (quite why anyone would want to build such a thing is beyond me!). Many more would come into the house, look around and then ask if I knew where the strawbale house was.

People responded to the house in many different ways. Older people loved the windows, small sash windows set in deep reveals, very like the old cottages many of them would have grown up in. Younger people, more used to modern concrete buildings, loved the feeling of the natural materials and the playfulness of the structure.

### **Post Festival Reflections**

What really impressed me about the building was that even though it was created with the idea of modelling sustainability in practice, none of that was upfront. It was just a beautiful, playful house with a Tellytubbies roof. But once people came inside and the questions started flowing, you could see their preconceptions crumble - it came with no dogmatic agenda about green building, it wasn't called 'the Green Home' or 'the Eco Home' or anything, it came in under the radar as it were. However, if anything, it had more of an impact because of that.

One man, when I told him how much it cost to build said "but my house cost £140,000 to buy, and I hate it...it's not like THIS". Another woman raised the idea of actually knocking down her new house, she hated it that much, and building a straw building instead! People would just walk in and fall in love with it. I often made the point to people that in old cottages it isn't the fact that they're old that makes them so comfortable and nurturing, rather it is the materials and the human-scale way they were built ... and that even though two months earlier we'd barely started the foundations, this house already had the feel of an old old house.

It was also interesting to see how children reacted to the house. I always feel that the way children react to a space is the same way adults would if they were more open and expressive. They would come in and look around, hang around for ages and then keep coming back during the day to show their friends.

I'm a great believer that showing people working practical solutions they can feel and touch is far more effective than any amount of teaching and campaigning. The Mallow strawbale house was so effective and powerful because it was presented to ordinary people as something non-threatening and non-challenging, yet it challenged them profoundly nonetheless. I came away from the Festival with a very strong feeling that those of us doing natural building and permaculture are on the edge of something that is going to be huge. In Ireland, with its 'Celtic Tiger' booming economy, where a young couple without £100,000 can either forget ever owning a house, or can sign up to a massive mortgage to burden themselves for many years to come just to buy a soulless cardboard box of a house, we have the solutions for the questions people are just (finally) starting to ask. With this strawbale house, as well as the other innovative natural structures springing up around Ireland, we have started to build something which is going to be massive, and judging by the amount of media interest it has generated since, something whose time has come.

*The Mallow strawbale house was sponsored by The Hollies Centre for Practical Sustainability, The Mallow Homes and Gardens Festival, Cor Castle Lime Products and by Triscle Heating. Many thanks to the inexhaustible Dominick Cullnane without whose vision and sweat it would never have happened. Thanks also to Barbara Jones for her supportive 'panicked strawbale builders hotline'!*