

Building a root cellar *and living the dream*



In the quiet Buckinghamshire village of Steeple Claydon, Ali Freeman and her family farm an impressive eight acre smallholding with a menagerie of animals and abundant vegetable plots. I went to meet them and was very impressed by the root cellar, which they'd built themselves. *By Susie Kearley*

It was a year earlier when I first visited the smallholding - their root cellar was just starting to take shape. The foundations were in place and I could see the beginnings of the walls, made from sandbags filled with soil and stones. When I returned the following August, the construction was complete, and inside, the root cellar was cool and ready to be stocked with the latest harvest.

The root cellar was constructed four feet deep into the ground. "I'd dig deeper if I did it again, for better temperature control," says Connor, the green fingered member of the family who grows most of the vegetables. Inside, the family store their potatoes, swede, turnips, and other root crops after harvesting.

When the root cellar walls were completed, they put soil over the structure, and then planted it with wild flowers, so from the outside, it looks like a natural mound with a door in the side. The wild flowers looked amazing in the spring, but the hot summer that followed meant they looked more like dried flowers by late August!

Construction of the root cellar

"The root cellar was born from Google and You Tube," explains Ali, Connor's mum. "Many of our mad ideas come from the internet! The concept of a root cellar is to dig partially into the ground and cover the bit above ground with soil. This keeps the storage area cool all summer and above freezing all winter. It's worked well, with an average temperature of between 5 and 10 degrees centigrade all year round. Because it's partly

subterranean, it's quite damp, with relatively high humidity... perfect storage conditions for all root crops. We store our potato harvest in it, along with carrots, swede, parsnips and celeriac. It's also the perfect environment for buckets of chicory for forcing."

Ali and the Freeman clan dug a circular hole around ten feet across and four feet deep. "This was filled with a four inch layer of road stone base, tamped down firm", Ali explains, "followed by a couple of inches of large gravel. This ensures that any water getting in has somewhere to drain away. We then lined the sides with some really long sheets of silage wrap, which eventually were wrapped up and over the finished structure for waterproofing."

The doorposts were set in concrete and the door was hung in place. Then construction of the walls began: bags of soil were laid on top of one another, like

bricks, to create the walls and roof. Ali explains: "Each bag was positioned on a fabricated tin sheet slider so they could be adjusted before pulling the tin out. We laid gravel under the bags on the bottom two layers of the wall, to prevent moisture wicking up. We also included a couple of lengths of drain pipe vertically, to provide airflow. The pipes went right up and out the top of the root cellar through the soil covering."

How did they ensure there was no slippage between the bags? They used a ring of barbed wire between each layer. "This helped to prevent the bags slipping once they were put in position," Ali explains.

The bags were then firmly packed down, so they butted up close. "This makes the whole structure really strong," says Ali. "This build method is used extensively in Asia to construct typhoon shelters and other emergency





Connor tending to the trees in his nursery

accommodation, as they will withstand pretty much anything!"

What were the greatest challenges? "Making the arch over the door was a bit fiddly," she confesses. "We made a temporary frame above the door to hold the bags while the arch was being built. It incorporated some horizontal posts to make an eventual kind of 'eyebrow' to shelter the door area. You can see from the photos, the day we removed the frame was a significant milestone! It not only held up, but it was strong enough to sit on! The layers of bags over the height of the door are corbelled in two or three inches per layer until you have your dome."

Another significant moment was when the keystone at the top was laid. It was on the eve of Lammas, an ancient pagan festival which celebrates harvest. "This seemed entirely appropriate," says Ali.

Once the dome was complete, a silage wrap, which had been put in at the start, was folded over the top, followed by a layer of wire mesh, to stop any animals being able to dig in.

"Then we used a digger to cover the whole thing with earth," says Ali. "Although we found we had to construct a little wooden front above the door, to hold the earth in place. Then the whole thing was covered with a jute net which held the soil in place whilst the plants grew. It was seeded with wildflowers and phacelia green manure, which the bees

enjoyed all summer. All exposed areas around the door and steps were roughly hand plastered with breathable lime plaster and the interior was shelved out with hand-built storage racks."

It's been a huge learning curve for the whole family. "We had an enormous number of bags filled and hefted," says Ali. "Not a project to undertake unless you have a good number of helping hands... which luckily we have!" Many people came to help, bringing muscle power and skills, as well as enthusiasm and ideas. "We definitely have an original and unique addition to the smallholding which is hugely useful," she says. "Not sure I'd fancy doing another one though!"

Elsewhere on the smallholding...

Opposite the root cellar is the chicken coop and duck pond. "When we started keeping chickens, it was for their meat and eggs," explains Ali, "but we didn't like preparing the meat, and found the process very lengthy, so we only keep chickens for their eggs now". Some family members are vegetarians.

Connor grows heritage varieties of fruits and vegetables, exotic plants, and heritage grains. He took an interest in growing his own food and started off tending to a relatively small vegetable plot that Ali had begun. He expanded it, trying new crops, and it grew and grew, to include every conceivable fruit or

vegetable, as well as heritage fruits and vegetables, grape vines, and nut trees.

Keen to live the dream of self-sufficiency, and to make it pay, Connor started a business cultivating and selling young trees. As he builds his customer base and offers new varieties, the business is seeing promising growth. Connor's recently launched a website: www.greenmantrees.co.uk

Livestock

The family keep sheep in the fields. A new shepherds hut makes it easier for Ali to stay with the sheep in comfort during the lambing season. They get experts in to shear the sheep and the wool goes to a local mill.

"We usually have sheep and pigs for meat," Ali explains. "We've kept several rare breeds of pigs, but our favourite is the Berkshires. They have a great character, especially the youngsters! They don't grow as quickly or get as big as some other breeds, but the meat is delicious and full of flavour". The pigs roam free-range in an outdoor paddock and have a shelter where they sleep. The pig house was built by the family and it's packed full of straw to make it cosy and comfortable.

"They enjoy a good wallow," grins Ali, adding that they like being sprayed with a hosepipe when it's hot. They supplement the pigs' feed with waste vegetables from the vegetable plots, so ↪





the pigs get plenty of fresh produce. You can hear excited squeals when they get carrot tops, strawberries and over-ripe fruits. Kitchen waste was banned as pig feed, following the Foot and Mouth outbreak in 2001, so the food always comes direct from the beds.

The pigs do like to go exploring. Pigs have a reputation for escaping and going on an adventure. Ali says, "Ours are no different!" The family have spent much time rounding up piglets who've run off to have an adventure of their own!

"What happens when you want their meat?" I ask Ali. She's quite matter of fact about it. "I take them to a compassionate local abattoir," she explains. "The butcher there produces his own meat and services a few smallholders". The experience is an emotional one for Ali, who is always tearful afterwards. "But if an animal's had the best life, and been treated with dignity and respect, I feel it's a more sustainable and ethical way to eat meat," she says.

The family's two donkeys are a particular favourite. They're adopted from the Donkey Sanctuary, a charity that re-homes donkeys who've had a difficult start in life. The donkeys live

happily on the smallholding, where they have a large paddock to roam and explore. The charity is based in Devon, but they have smaller sanctuaries all across the UK. You can go to their sanctuaries to see donkeys available for adoption or fostering. The sanctuaries are also a great place to take a bit of time out with the kids.

When they first bought the land, the Freemans planted over 1000 trees, creating a woodland area that's a haven for wildlife, and good for growing woodland plants and mushrooms too.

The wildlife on the smallholding is quite a talking point. The family have barn owls nesting in the trees over the summer and autumn. They had a new nest box installed by the Bucks Owl and Raptor Group and the charity comes to check the nest box for newborns and do health-checks every year - they also ring the youngsters and record their progress.

The Freemans have achieved an impressive self-sufficient lifestyle, but it's not easy. There's always loads to do. In the spring Ali said, "We've had a huge amount on, with tugging and scanning the ewes for spring lambing, several tons of compost delivered, 20 odd tons of wood chip and around a 1000 bare root trees to pot up! Never a dull

Rescuing a barn owl

The first time I met the Freeman family it was when Ali had telephoned the Bucks Owl and Raptor Group, looking for advice. She'd rescued a barn owl lying on the road, soaked through after a heavy storm, and taken him into her stable to dry him out. He was weak and she didn't think he'd survive the night. But he did, and he slowly got stronger, fed a diet of pet-shop bought frozen mice, defrosted, and kept in a box in the stable. A week later they set him free. The family also had an owl nesting box with three young inside, so Norman from the Bucks Owl and Raptor Group ringed the chicks while he was there. They were beautiful with fluffy white, wispy, juvenile feathers.



More barn owl chicks have been born on the smallholding since then, including a couple that were the heaviest BORG had ever recorded. It was a period of dry weather when there were lots of voles around - the barn owls favourite food!

moment and we've been putting in some pretty long days!"

For more relaxing moments, they have a bio-filtered natural pool, which they use for swimming and relaxation. "There's a huge newt population in the pool and we get lots of dragon flies!" says Ali. Their root cellar building is a fabulous way to store the produce after the autumn harvest and this year they've put carrots, swede, parsnips and celeriac inside. They're looking forward to eating their produce through the colder winter months.

See Connor's tree nursery online at www.greenmantrees.co.uk or contact him on connorscottfreeman@gmail.com or 07583 323 799 with your requirements. **TS**