

1 Poppy love

Imagine how much less exciting this roof would be if, instead of orange-red flowers it was slate or asphalt? This is a school building – designed by Tectoniques Architects – just outside Lyon and is an example of yet another thing (along with, for a start, cheese, wine and surliness) that the French do so much better. It also makes fantastic use of slopes and planes.



1 ALAIN VARGAS, TECTONIKES ARCHITECTS



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Up on the roof

Why waste precious gardening space with roofing felt and asphalt? James Alexander-Sinclair examines the pleasures and pitfalls of topping part of your home with a green roof

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2 MICHAEL WICKHAM, ARCHIBLOX; 3 THE GARDEN COLLECTION/FP/ MICHELLE GARRETT; 4 JOE FLETOHER PHOTOGRAPHY

2 Sea the light

This is on the cliffs overlooking Avalon Beach just north of Sydney – sadly that vast Norfolk Island pine is not growing out of the roof – it would be very exciting if it were. The house, designed by architects ArchiBlox, is prefabricated and was erected in only six weeks with a good rain-water harvesting system to make sure that the roof stays looking good.

3 Small wonder

This shows just how adaptable a green roof can be: in contrast to some of the other architectural grandiosities shown here, this is simply a small stone shed in the shade of some trees – the perfect place for a confection of ferns and moss.



4 Walk on high

This studio has been cunningly constructed among the redwood trees on a steep slope in California. The house is just above so it is easy to walk out straight on to the patterned roof, designed by landscape architect Jori Hook. Native plants do well to catch as much of the tree-filtered sunlight as possible.

Usually we pay no attention to roofs – unless they are extraordinary (like the onion domes of Saint Basil's Cathedral in Moscow or the one where Dick Van Dyke and his posse of camp chimney sweeps cavorted in *Mary Poppins*). Instead we take them for granted most of the time and all we ask is that they keep the rain off our heads. However, roofs do not have to be joyless, grey things for they can also be full of life and excitement if they transmogrify into green roofs. Before we start let me clear about one very important thing – green roofs are not roof gardens. We are not talking about rooftops supporting trees or places to entertain (although you could if you wanted) but simply covering flat roofs with something more attractive and more sustainable than asphalt.

I have two green roofs: one is of sedum and one consists of a raging frenzy of wildflower. They each have their own benefits and

drawbacks. The sedum roof, above the kitchen, requires no maintenance (apart from the occasional five minutes weeding) and spends much of the summer as a hangout for every bee within a five mile radius – at least it feels like that when the joint is humming like a kazoo orchestra in full flow. As I must always be scrupulously honest I have to admit that it also looks a bit rubbish in the depths of winter. The garage has a wildflower roof, which has a fabulous few weeks in midsummer when it is covered in campion, ragged Robin, ox-eye daisies, wild carrot, clover and yarrow augmented with various early spring bulbs that I have flung into the mix. It too has a downside in around August when it looks as dry as an abandoned sandal, however, once trimmed it quickly greens up.

A green roof is a lovely thing and one that should be mandatory for anybody either building, or already in possession ▷

5 Call of the wild

A classic wildflower meadow but lifted up into the air.

Wildflower roofs are often easier to establish than actual meadows as it is much easier to keep the soil impoverished and fertility down so there is less conflict with thuggish grasses. Wildflower turf is widely available and easy to install.



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6 Tropical topping

This is a tiny courtyard designed by Tom Stuart-Smith for the Keeper's House restaurant and bar at the Royal Academy of Arts in London. Bold tree ferns and a ground cover of the ever reliable (though hard to spell and slow of growth) *Hakonechloa macra*. The wonderful giant red fork is a sculpture by Michael Craig-Martin.



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7 Tall order

An interesting little twist on the standard green roof, which is usually designed to look as natural as possible. This is a much more formal number with evenly spaced punctuating grasses and pathways. It's one of 24 different green roofs at the New York City Department of Parks and Recreation building on Randalls Island.

5 HABITAD.CO.UK; 6 MARIANNE MAJERUS GARDEN IMAGES; THE KEEPER'S HOUSE: ROYAL ACADEMY OF ARTS/DESIGN; TOM STUART-SMITH; 7 FRANCES ROBERTS / ALAMY STOCK PHOTO

▷ of, a bit of flat(ish) roof. It does not have to be enormous – a bin store, a shed or a bike shelter will do if your home only has steeply pitched roofs. Green roofs are considerably more sensible than green walls, which are invariably temperamental as they depend on timers and exact watering times for their survival. A green roof, on the other hand, is a simple thing that lives on the rain which inevitably falls and the sun that occasionally shines. This not a new idea: the Vikings came home from a few exhausting weeks on the pillage to huts cosily roofed with turf – laid on top of a waterproofing layer of birch bark. Incidentally, the weight of the turf (especially with a few feet of snow on top) helped to slightly compress the whole building thus lessening the cracks between the logs and reducing draughts. The modern, environmentally aware green roof first became popular in Germany about 20 years ago and has unsurprisingly risen in popularity ever

since. It is a very simple and compelling idea – take a lot of wasted space and transform it into something useful. A variation on the green roof is the brown roof that is planned specifically to excite the interest of a particular, sometimes endangered, species of animal. It could be for spiders, other invertebrates (a survey of sedum roofs in Canary Wharf found 48 species thriving high above the river) or even birds: there are roofs in London that exist to help the continued survival of the black redstart, a bird that thrived on bomb sites after the Second World War but has become increasingly endangered over the years as London has been rebuilt. Brown roofs have, in addition to plants, patches of sand, rubble and piles of wood as habitat. Couple of important points before you all get carried away with the idea and start spreading soil all over your houses. Green roofs are



8 RONALD TILLEMAN

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8 Museum mountain

This is the Biesbosch Museum in the Netherlands. These roofs are magnificent grassy pyramids that can be traversed as if they were a range of angular mountains. They are not only there as land art and to contribute to the ecology of the area, they also play an important role in rainwater management and provide insulation for the museum.

Further reading

- **Small Green Roofs**
by Nigel Dunnett and Dusty Gedge (Timber Press, 2011).
- **Creating My Green Roof: A guide to planning, installing, and maintaining a beautiful, energy-saving green roof**
by Dave Hilary (Createspace, 2015).
- **Planting Green Roofs and Living Walls**
by Nigel Dunnett and Noël Kingsbury (Timber Press, 2008).

Where to buy and find out more

- **Green Roof Guide**
Information and advice on installing green roofs.
greenroofguide.co.uk
- **Habitat Aid**
Supplies native wildflower plug plants and seed.
Tel 01749 812355, habitataid.co.uk
- **Living Roofs**
Independent organisation promoting green roofs.
livingroofs.org
- **Oxford Green Roofs**
Designs and builds green roofs.
Tel 01235 204187, oxfordgreenroofs.co.uk
- **Sedum Green Roof**
Supplies green-roof systems.
Tel 01747 830176, sedumgreenroof.co.uk
- **Wildflower Turf**
Supplies ready-made wildflower meadows.
Tel 01256 771222, wildflowerturf.co.uk