

## Roof Gardening

**By Judy Liebner**

Deborah Fear had nowhere to go but up when she began looking for areas to expand her garden.

Fear, who lives in a century-old brick home in downtown London, Ontario, had exhausted the gardening possibilities in her long, narrow backyard. Instead of reworking her existing flowerbeds, she decided to create two miniature gardens on the flat roof of her greenhouse.

Fear and her husband, Larry Bolender, had read articles about roof gardens and were attracted by the novelty of them. "I always thought it would be really interesting to do one," Fear recalls. "We needed to re-roof the greenhouse last year so it seemed the perfect opportunity and time to do it."

The couple researched the topic on the Internet and at the library. "When I read that someone in the United States had done one on his garage for \$80, that was my motivation – of course, it was a big lie," Fear says with a laugh.

Fear experimented several years ago with growing ribbon grass in planters on top of her 15- by 20-foot greenhouse, which is faced with glass windows. She liked the idea of taking advantage of unused space and approached the roof garden as "a doable challenge."

Bolender's job in the month-long project, which was completed in May 2005, consisted of overseeing the construction and making the roof sound enough to bear the weight of soil, stepping stones and lava rock. "Deb did a lot of research on what she was going to put on the roof, but I had to make sure she was safe on the roof," he says.

He reinforced the roof with wooden cross-joists to accommodate rain and snow, and then supported the roof with steel braces and bolts. After removing the existing shingles, he sandwiched a heavy-gauge rubber pond liner between two layers of pool covers. The liner waterproofs the roof and contains the soil.

The couple then laid one layer of stepping stones on top of the pool cover, followed by 1 ½ inches of black lava rock and a layer of drainage fabric. A second layer of stepping stones was laid on top of the first to secure the fabric and raise the stones up to the level of the soil line.

The couple then spread 3 ½ inches of light soil around the stepping stones. They mixed the soil from a combination of peat moss, leaf mould, compost, forest mulch, lava rock, broken clay pots and sandy soil.

Along the edge of the roof, they added a drainage strip, consisting of a pool cover, crushed stone, and long stepping stones. Two drainage pipes, leading down through the roof between the two gardens, direct rain run-off to the ground. A slight natural slant to the roof facilitates the drainage.

"When it really rains or when the snow melts, it's got to have an exit somewhere," Fear says. "After a heavy rain, you can stand there and listen to the water just rushing down this drain and out to the other garden below – it works really well."

Bolender covered the rubber roof edges with a tin U-channel– a critical addition since the sun causes the rubber liner to deteriorate over time.

During the project, the couple relied on a combination of new and used materials, as well as "found" objects, such as a free pool cover. Even so, the materials cost them about \$600, including plants.

Fear and Bolender agree their greatest challenge lay in improvising the construction and materials based on the information they were able to source. “We had to do a lot of our own interpretations and what we thought might work,” Bolender says.

Having several inches of soil in her gardens has allowed Fear to grow 70 different plants. Small, drought-resistant specimens with narrow leaves were a priority since plants with larger leaves require more water.

Each garden, divided down the centre by four square stepping stones, brims with a mixture of tiny plants. Varying heights and textures create a sense of balance in colours that range from vibrant reds and yellows to misty blues and pinks.

Low-lying plants, such as sedums, miniature hostas, thyme and mosses, are interspersed with plants that provide vertical interest, such as Egyptian onion, feathery pink silotia, white Cupid’s dart, and oxalis, which resembles clover on long, slender stems.

Many of the plants are so tiny they would vanish in a conventional garden; the leaves of one sedum resemble small bubbles. Diminutive white poppies, dwarf snapdragons and miniature irises are defined against a backdrop of weathered stone and black lava rock.

Fear watered her garden only four times last year, but suspects the addition of plants not considered drought-resistant will create more work. Early in the spring she added compost and bone meal to fertilize the plants, which will be sufficient for the year since she wants her plants to remain small. This winter, she covered the garden with burlap bags stuffed with straw to protect the vegetation from the freeze and thaw weather patterns that occur in the early spring.

Fear’s roof garden has been unexpectedly satisfying. “It’s a pleasing little garden,” she says. “It’s a way to really look at plants. . . . It was a fun thing to try.”

She advises other gardeners to experiment with rooftop gardening. “If you’ve got a little area that you want to play with, I think it’s great fun and not hard. It will last longer than a regular roof, so we can look at it that way, too.”