

Green Roof Diary June 2007
Landcare Research

John and I had a successful few days on your roof last week; the infiltration rate was measured at 8 randomly-selected sites (photo) and is excellent, mean of 2000 mm per hour and no site below about 600 mm/hour. This indicates the ponding observed on occasion was either transient or/and small, isolated spots. We have taken cores from 6 of the sites to quantify the amount of moisture held in the substrate, and the maximum saturated weights, now that the roof will have stabilised (i.e. any mobile fines washed out).

I quantified plant cover and species presence/absence using random quadrats and the permanent tagged plots that run down the upstands; also checked out the little logs to find the two spider species (Steatoda or false katipos and Lycosa or wolf spiders-photo) still dominant and slugs have again appeared. One worm. I will not be able to crunch the plant data until next month, but I'm confident we've exceeded the vegetation cover criteria of >60% after 18 months as identified by the FLL greenroof standards (Germany). Nertera/Leptinella and Mercury bay weed in particular have rocketed back over autumn, and many of the Coprosma, Pimelea and Selliera I thought had died in February, have resprouted. You both mentioned the plethora of tiny iceplant seedlings in many areas (photo).

TWO ACTION POINTS:

1. I talked with Chris re the weed seedlings that he'd noted have also enjoyed the warm autumn weather. The numbers need a team of careful people to weed - probably a day for 4 people.

I spent a couple of hours weeding examples of the different areas and species, and ensuring the area around the door was free of weeds. It's important that the weeds are removed with minimal surface disruption, i.e. we don't want any soil to be seen at the surface, just clay balls, as soil is a great site for weeds to exploit and germinate in.

Most of the weeds can be removed without surface disturbance by pushing gently down on the soil around the base of each weed, while pulling the weed out with the other hand. The larger oxalis has developed runners that can be gently lifted up before the centre of the plant is removed. Flatweeds tended to have a large root mass so I cut these under the soil surface, leaving most of the roots behind. The weeders need to be able to differentiate iceplant seedlings and Calystegia regrowth from the weeds.

2. I suggest the interplanting two areas where high plant mortality has occurred (adjacent to the copper dome near the entrance, and to the Japanese side of the air conditioning vents). These are the areas with the thinnest substrates - 55 to 65 mm depth rather than the 90-100 mm across the rest of the roof. Iceplant seedlings are common in these areas, so I think planting should concentrate on Festuca and Coprosma - the most drought tolerant of the species on the roof.