

Testing different mesh coverings on vermiculite media

Early Grow mini propagators were prepared with layers of (i) capillary matting, (ii) vermiculite and (iii) various type of mesh covering (and control without). The filled propagators were soaked with 250mL prepared Samurai Grow hydroponics nutrient medium., and sub-irrigation containers were partly drained, before being seeded with gemmae, covered with lids with open vents and placed under LED panels running at 50%. Seeded on 10Feb2024.

The different screens consisted of:

- (0) Control, none
- (1) Weedban50
- (2) Narrow mesh solid plastic (used for embroidery)
- (3) Wide mesh plastic (used also for hydroponic membrane support)
- (4) Nylon mesh (garden mesh for protection of plants from insects/birds)
- (5) Spreader mat
- (6) Stainless steel (100 mesh)

Conclusions

1. Stainless steel mesh performed very well - gemmae were all captured on the upper surface, and grew well in contact with the vermiculite and nutrient medium. The mesh is ~100 per cm - close to 100µm gaps in the mesh - likely a good dimension to allow good support for the seeding propagules, and allow direct penetration of rhizoids. The stainless steel mesh is relatively expensive, and more difficult to work with - i.e sharp cut edges and tendency to warp.
2. Weedban50 performed adequately, but plants grew slower than control.
3. The narrow solid plastic sheet captured gemmae well on seeding, but the grew erratically, and many died.
4. The more open plastic mesh and nylon netting allowed gemmae to fall through the openings, so saw plans growing under the mesh - not ideal.
5. The spreader mat trapped the gemmae on the surface of the medium, but the plants looked water-logged and grew slowly. Algal contamination appeared quickly on this layer.



(0) Control, none (Day 7)



(1) Weedban50 (Day 7)



(2) Narrow mesh solid plastic (Day 7)



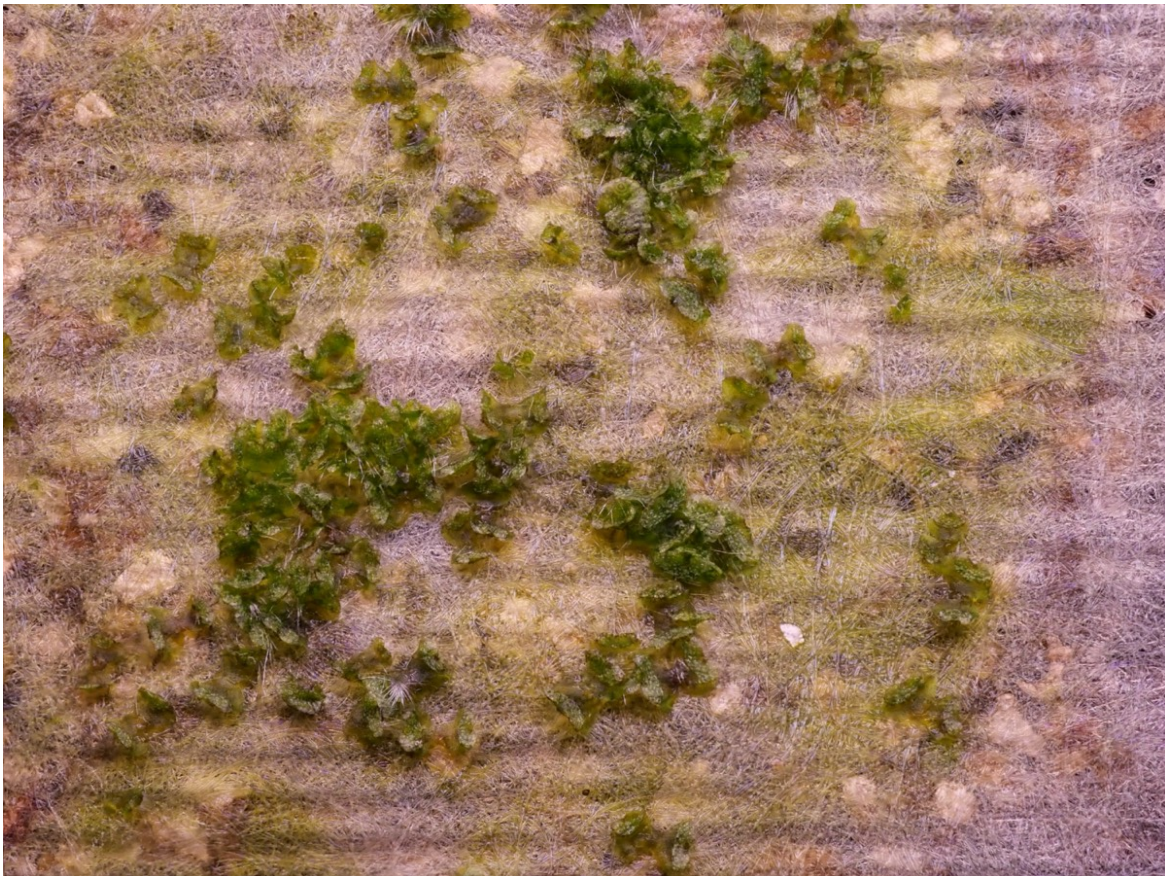
(3a) Wide mesh plastic (Day7)



(3b) Wide mesh plastic - mesh removed from plants growing underneath the mesh)



(4) Nylon mesh



(5) Spreader mat



(6) Stainless steel (100 mesh) Day 7

Plant growth at Day 14



(0) Control, none (Day 14)



(1) Weedban50 (Day 14)



(6) Stainless steel (100 mesh) Day 14