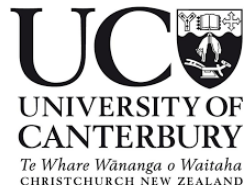


Alexandra Meister, Hamish Lowe, Maria Jesus Gutierrez-Gines, Jimena Rodriguez, Mike Bourke, Brett Robinson

Native vegetation: A new paradigm for wastewater land application systems?



Wastewater discharge and reuse



New Zealand native vegetation



Field trial 1: Duvauchelle



3W	2W	1W
1C	3C	2C
2W	3W	1W
2C	1C	3C
1W	2W	3W
3C	2C	1C
3W	2W	1W
1C	3C	2C

C: control

W: TMW irrigation

1,2,3: vegetation type

2015 to 2022



1000 mm/yr

N

200 kg/ha/yr

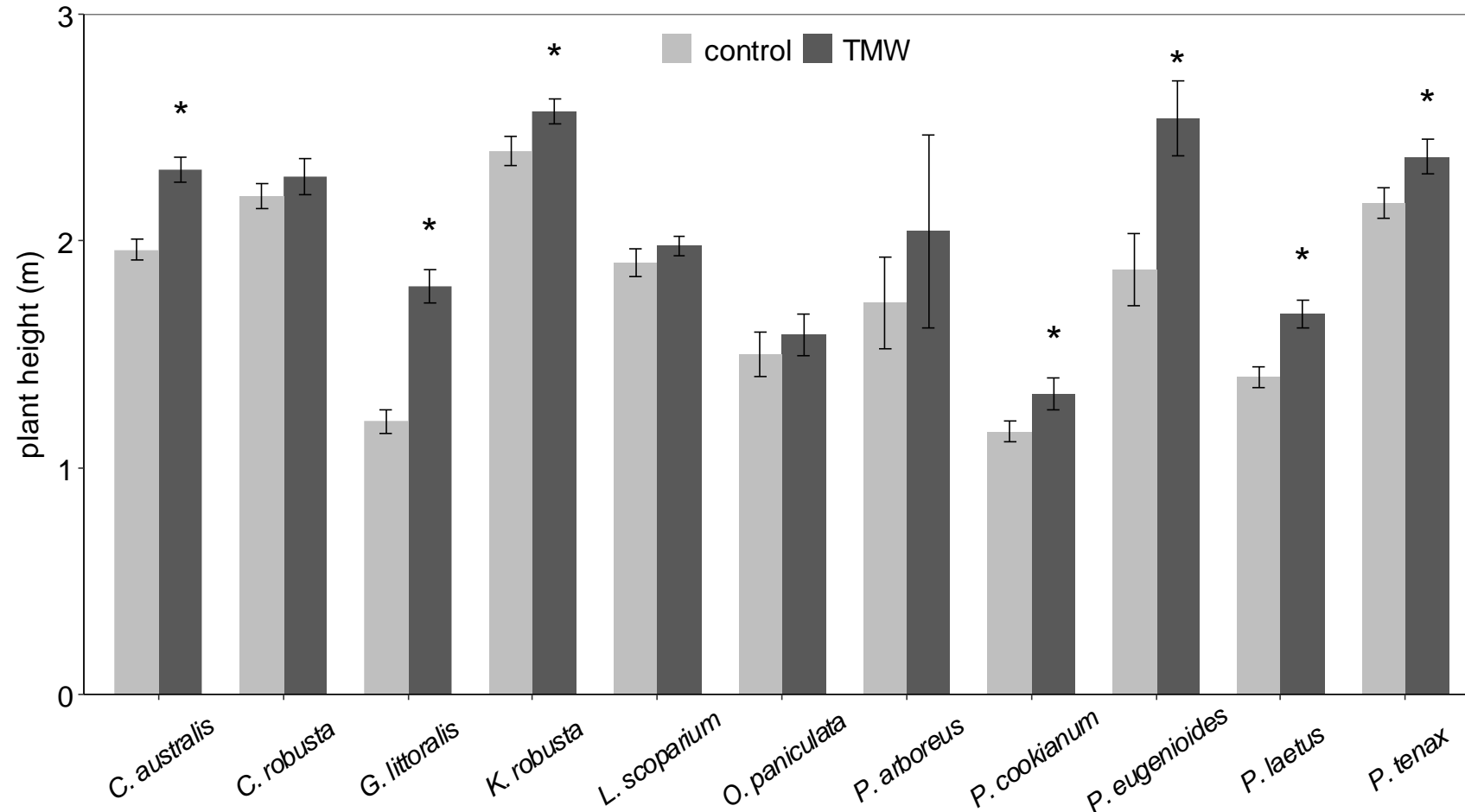
P

110 kg/ha/yr

water
NEW ZEALAND
The New Zealand Water & Wastes Association Waiora Aotearoa

water
NEW ZEALAND
CONFERENCE & EXPO
18-20 October 2022, Te Pae Otautahi Christchurch

Wastewater increases native plant growth



Field trial 2: "The Pot"



4700 mm/yr

N

1500 kg/ha/yr

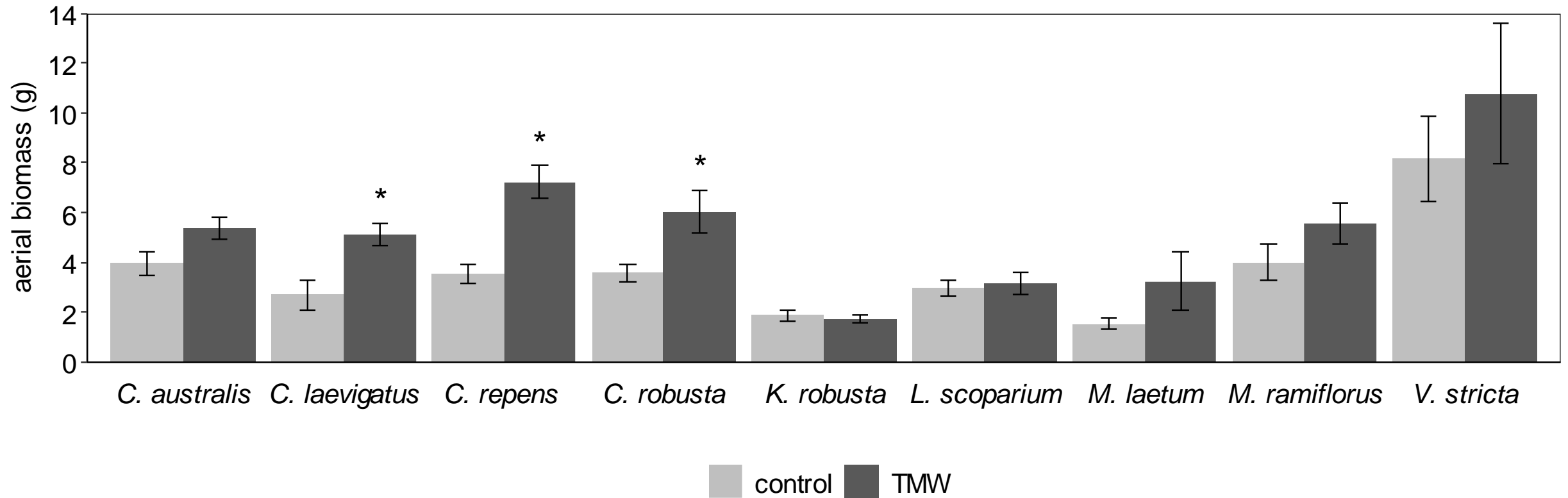
P

380 kg/ha/yr

water
NEW ZEALAND
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water
NEW ZEALAND
CONFERENCE & EXPO
18-20 October 2022, Te Pae Otautahi Christchurch

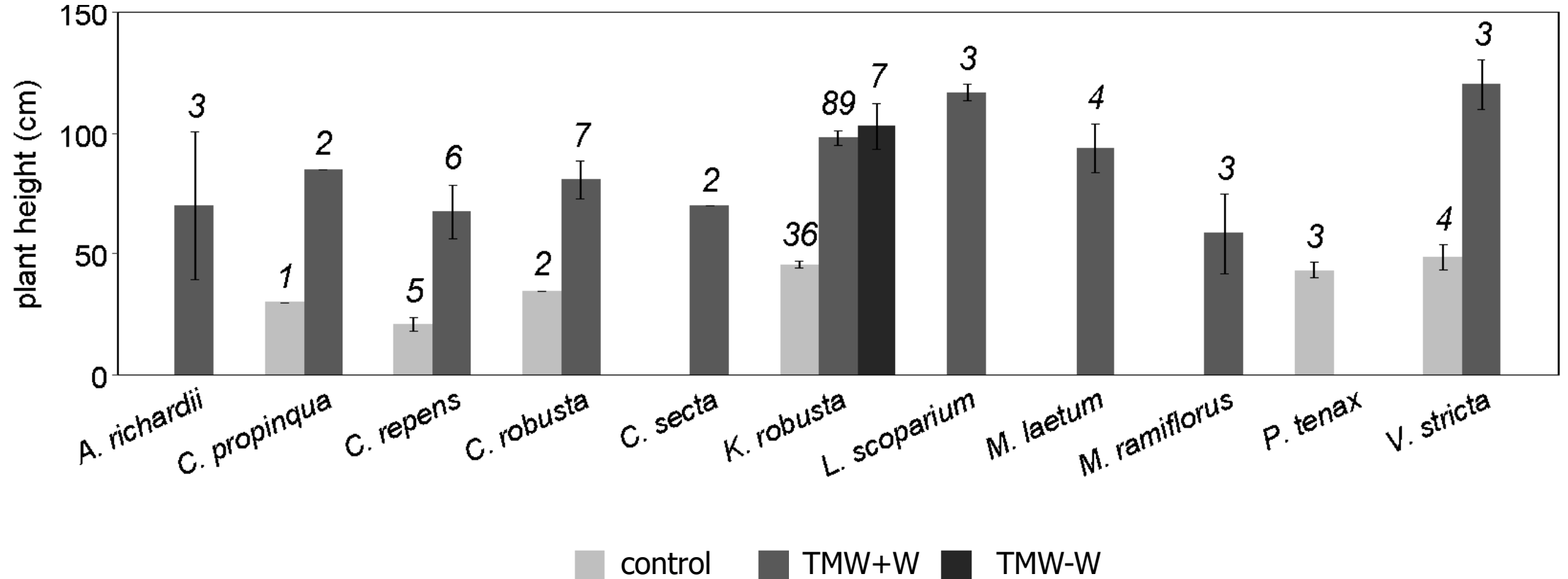
Preliminary experiment



Excessive weed growth



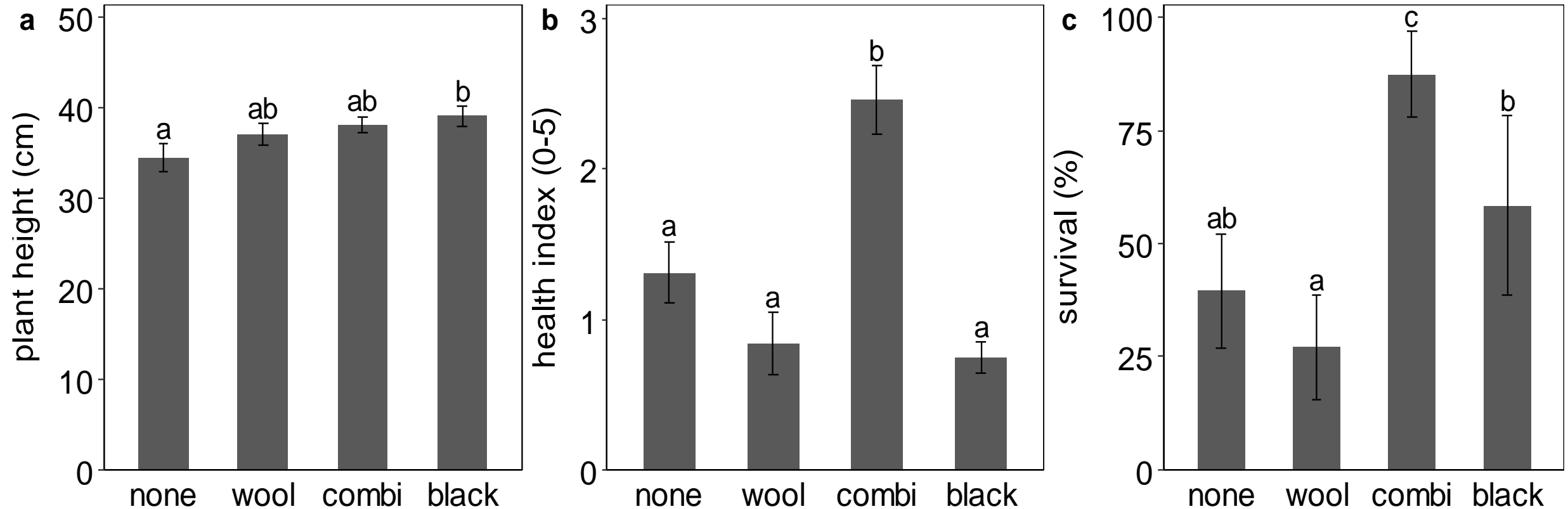
Plant height in 2019



Weed control trial



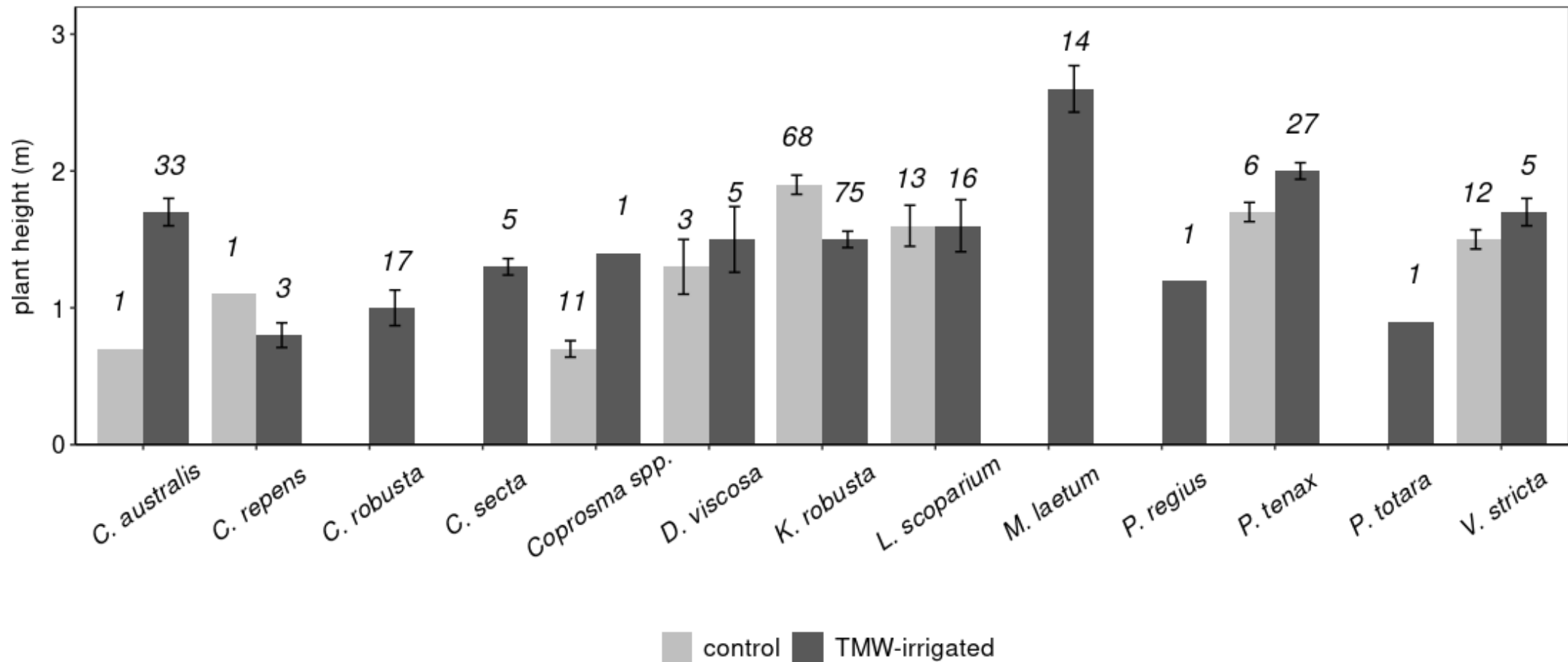
Tree guards improve plant survival & health



Changing weed flora



Plant height in 2022



Other challenges at “The Pot”



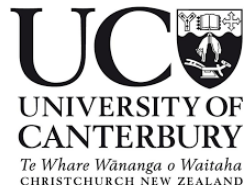
Critical success factors

- Irrigation rate
- Species selection
- Weed control
 - Planting density
 - Seedling size
 - Planting into pasture
 - Planting in stages
- Pest control



Thank you!

**Christchurch
City Council**



Ministry for the
Environment
Manatū Mō Te Taiao



Freshwater Improvement Fund

Horowhenua
DISTRICT COUNCIL

