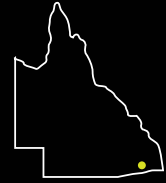




Case studies

Trevor, Lois and Daryl Martin , 'Marrakai', Goondiwindi Qld.



PROPERTY DETAILS

Location: Wyaga district, 50 kms north-east of Goondiwindi, southern Queensland

Catchment: Tin Hut Creek and Coomoran Creek, Weir River catchment

Property area: 3,188 hectares, 1,000 hectares cultivation

Main enterprises: Beef cattle, dryland grain production

Where lippia is a problem: Melon-holes in pasture paddocks, and around stock water dams



Lippia established in light sandy country

(Photo by P. Crawford)

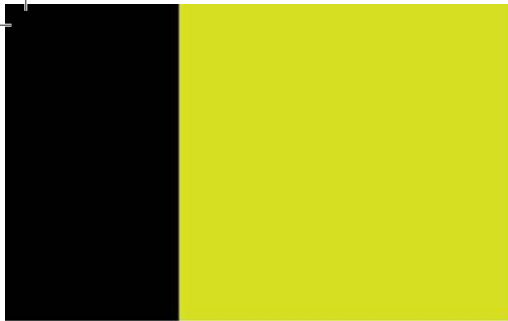
General information and lippia infestation

Trevor first noticed lippia around 2002, but it was not recognised as a problem at the time. 'Marrakai' is not a floodplain property so the lippia did not arrive in floodwaters. It is likely that the weed was carried in by birds (such as ducks) to melon-holes when filled with water. The weed has since spread around dams, probably carried by either stock or birds.

Trevor has noticed that the lippia has defied current thinking that it prefers heavy soils. It is growing in light sandy-loam box country near dams. Even the melon-hole country is lighter than the soil types where lippia is normally found.

The cultivation country also has melon-holes, but lippia is not a problem because in most years the melon-holes can be cultivated. This situation may well change with a return to wet seasons or an increased use of zero-tillage in the cropping operation.





Methods of lippia management

Chemical control of lippia in melon-hole country has been deemed too expensive and impractical, due to the large number of holes and the rough and uneven nature of the paddocks. The only way chemical could be applied is by air, and as lippia is only present in small areas around the melon-holes the wastage and expense would be unacceptable.

For several years, Trevor has observed the establishment of water couch (*Paspalum distichum*) in several melon-holes. He is not clear how this grass came to be on the property but it is excellent cattle feed and is very well adapted to survival in melon-holes. It will tolerate total inundation for lengthy periods but it will not spread outside of the wet area of the melon-holes.

It is appearing that the water couch is an excellent competitor with lippia and where lippia has been present in melon-holes prior to the water couch becoming established it is now only surviving on the edges of the melon-holes. The severe drought conditions of 2007 have caused much of the water couch to die out, the first time that Trevor has seen this occur. Good spring rainfall has resulted in some seedling establishment and Trevor is fairly confident that the water couch will return to its previous lush condition.

Trevor is trying to spread the water couch around the lippia infested melon-holes as seasons and time permits. He is closely monitoring the progress of his trials and keeps photographic records for monitoring purposes.

The Martins have established an exclusion area where four melon-holes have been fenced off and the area monitored to compare any improvement in species composition between grazed and ungrazed melon-holes infested with lippia. The main species are native pasture grasses, Bambatsi panic and Purple pigeon grass. Due to the ongoing severe drought, results are unclear at this stage but the trial will continue for several years.

The top photo shows lippia around the edge of a melon-hole showing the water couch encroaching from the centre of the hole (December 2004). The bottom photo shows the same melon-hole with very little lippia present (March 2006)

(Photos by T. Martin)



Trevor Martin with Renee Stephenson (QMDC) looking for lippia seedlings at the monitored melo-hole in December 2007

(Photo by P. Crawford)

Future control options

Trevor will continue to spread water couch into melon-holes, concentrating on those that have lippia present. The lippia areas around the dams pose a problem, with the only option being chemical control. At this stage, these infestations are not causing too much loss of production, as only small patches are presently appearing however, ongoing monitoring will be undertaken.

