

Research finds mowing is an ineffective control against couch smut



Smutted paddock

A research team at The University of Queensland continues to investigate couch smut under the levy funded project **Improved capacity for integrated disease management of couch smut (*Ustilago cynodontis*) in turf (TU17002)**. The team has been exploring whether mowing can be used to control couch smut, and we caught up lead researcher, **Dr Andrew Geering** to find out more.

Couch smut, caused by the fungus *Ustilago cynodontis*, is common in Australia on green couch varieties.

The fungus infects the plant's inflorescence, replacing the seed embryo with masses of black spores, causing what is known as a 'smutted inflorescence'. Infected plants are also yellower and more upright in growth habit, spoiling the appearance of the turf, especially for more prostrate couch varieties.

Dr Andrew Geering, Associate Professor at The University of Queensland, has been investigating the role that mowing plays in the management of the disease.

"It is often bandied about, even by more experienced plant pathologists, that couch smut is easily controlled just by mowing the grass but as far as we could tell there was no scientific base to this claim," he said.

"That's exactly what we set out to investigate."

To examine the distribution of the couch smut fungus in the plant, a test was developed to determine if the fungus was present in different plant organs, even when disease symptoms were not evident.

Using this test Dr Geering and his team were able to demonstrate that *U. cynodontis*, the pathogen that causes couch smut, systemically infects the plant, invading all plant organs including the flowers, leaves, stolons, rhizomes and roots. This is proof, according to Dr Geering, that mowing is ineffective as a control for couch smut.


"Our tests confirmed that all mowing would do to an infected plant is remove the most visible signs of the disease.

"It does nothing to destroy or remove the fungus which causes the disease, which remains in the host plant and is still capable of moving into new flower heads as they develop," Dr Geering said.

The study has also hypothesised that mowing could actually contribute to spread of the disease by spreading the fungal spores in mowing blades.

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Further studies are needed to determine the points of entry of the fungus, such as whether it can infect through the roots.

The levy-funded project, **Improved capacity for integrated disease management of couch smut (*Ustilago cynodontis*) in turf**, continues to explore methods of managing couch smut. Stay tuned to updates from Turf Australia as new research is published. 

The levy funded project Improved capacity for integrated disease management of couch smut (*Ustilago cynodontis*) in turf (TU17002) is funded by Hort Innovation using the nursery industry levy and funds from the Australian Government.



Close up of smutted inflorescence