

# Rhizoctonia in ameliorated and non-ameliorated soils

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## Key messages

- *Rhizoctonia solani* (AG8) populations behaved differently after different amelioration options were applied at Yerecoin (yellow sand) and Darkan (duplex sandy gravel).
- Soil inversion and soil mixing treatments reduced *R. solani* inoculum in the topsoil; this effect persisted over both seasons. *R. solani* in the topsoil commonly impacts crops early in the season.
- Amelioration treatments increased *R. solani* levels at 10-40cm depth where this pathogen and other soilborne pathogens or nematode pests are not usually found in non-ameliorated soils in WA.
- Soil inversion consistently out-yielded the control, deep ripping and soil mixing treatments. Soil inversion increased grain yield by > 0.57 t/ha (>17%) over the control at Yerecoin and Darkan in 2019 and 2020.

## Aims

1. Compare prevalence and distribution of *R. solani* after three mechanical amelioration treatments to a non-ameliorated control. The trials also included assessment of soil biological communities and nematode pests, which were present and active, but are not included in this presentation .
2. Determine if the addition of lime after mechanical amelioration influences the distribution and levels of *R. solani* inoculum.

## Comments

Mechanical soil amelioration had a significant impact on the presence and distribution of *R. solani* in both soils. Generally, amelioration decreased *R. solani* inoculum levels in the topsoil and increased them deeper in the profile. The *R. solani* inoculum survived and persisted at depth for over two years. The disease implications of its continued presence and multiplication at depth is unclear and needs investigation.