



Owing to its high specificity and virulence on parthenium weed (*Parthenium hysterophorus* L.) in the humid lowland areas of Mexico, the summer rust fungus, *Puccinia xanthii* Schwein. var. *parthenii-hysterophorae* Seier, H.C. Evans & Á. Romero, was imported into South Africa in 2004 as a potential biological control agent against parthenium weed in this country. Host specificity tests were conducted under quarantine conditions and, once it was established that the rust fungus was host specific on parthenium weed, the first releases of summer rust fungus were made in 2010.

DESCRIPTION

The summer rust fungus produces reddish to dark brown pustules that are arranged in compact circular groups. These pustules contain light golden brown teliospores that germinate *in situ* on the underside of leaves and on stems (i).

DAMAGE TO PLANTS

Pustules are produced on the underside of leaves, but also on stems. These pustules may coalesce to cause leaf necrosis and plant die-back (iv). As with all rust fungi, the summer rust fungus can only survive inside a living, host plant and, since the fungus is specific to parthenium, it can only survive and reproduce on a parthenium plant.

IMPACT ON PARTHENIUM WEED

The undersides of leaves as well as the stems of infected plants become covered in visible reddish to dark brown pustules that form in compact circles. Heavily infected leaves will turn yellow and eventually cause plant die-back. Since the teliospores can only germinate *in situ*, whole plants that are infected with the summer rust fungus (so-called trojan plants) must be transplanted in the field among healthy parthenium plants to ensure that the rust fungus becomes established in the various release localities.



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