

## INSECT PESTS OF THE KUMARA CROP

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The kumara (*Ipomoea batatas*), or sweetpotato crop, is propagated by sprouting roots stored from the previous season. The warm humid conditions within propagation beds, protected by plastic cloches, produce densely packed sprouts that can support infestations of aphids, such as the potato aphid (*Macrosiphum euphorbiae*). The sprouts are hardened by removal of the plastic covers and transplanted into freshly prepared fields, where they are susceptible to the garden symphyliid (*Scutigera immaculata*) grazing on newly formed roots and greasy cutworm larvae (*Agrotis ipsilon*) chewing through plant stems at ground level. The plants tend to develop a profuse canopy during the season, which supports convolvulus hawk moth larvae (*Agrius convolvuli*) and large populations of soybean looper larvae (*Thysanoplusia orichalcea*). However, foliage damage is generally not considered of economic importance, considering the plant's vigour. Sweetpotato roots swell as the season progresses, and are vulnerable to damage by black field crickets (*Teleogryllus commodus*), and larvae of white-fringed weevil (*Graphognathus leucoloma*), black beetle (*Heteronychus arator*) and pasture wireworm (*Conoderus exsul*). Following harvest, larvae of the tropical armyworm (*Spodoptera litura*) and detritus moth (*Opogona omoscopa*) may cause considerable loss of root quality over prolonged storage periods.

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The predominant diseases of the commercial kumara (*Ipomoea batatas*) or sweetpotato crop are caused by fungal pathogens. The field disease pink rot results from infection by the fungus *Sclerotinia sclerotiorum*. Lesions form on vines but may spread down stems to the roots. The widespread nature of this disease in sweetpotato appears peculiar to New Zealand. Scurf is a disease caused by *Monilochaetes infusans*, which occurs in the field but may proliferate amongst stored roots. The disease causes a superficial discolouration of the root surface, which is mainly cosmetic, but can also increase root water loss in storage. Infection by *Ceratocystis fimbriata* produces a disease known as black rot. The disease can be transmitted amongst plants at propagation, but is particularly rampant amongst roots in storage. This disease is readily transmitted and can cause severe economic loss. *Fusarium oxysporum* causes surface rots in stored roots, characterised by light to dark brown lesions that tend to be firm, dry and superficial. The lesions may be circular and centred on wounds caused by insects or mechanical damage at harvest. Soft rot, caused by *Rhizopus stolonifer*, generally occurs in roots after they are washed and prepared for the market. Fungal infection occurs through wounds or bruised tissue, producing distinctive tufts of white fungal strands and black spores.