

Report of a Pest Risk Assessment

The Panel on Phytosanitary Measures requested the Secretariat, on the basis of a data sheet and a PRA prepared by Dr A. McLeod (CSL, UK), to write on its own responsibility a report of a pest risk assessment for the Working Party. This report supports the conclusions of the Panel.

This report presents the main features of a pest risk assessment which has been conducted on the pest, according to EPPO Standard PP 5/3(1) Pest Risk Assessment Scheme.

Pest: *Melanotus communis*

PRA area: EPPO region

Date: -

1. INITIATION

1.1: Reason for doing PRA Initially, UK commodity risk assessment of seed potatoes from the eastern seaboard of Canada. Later, for EPPO, study of potential quarantine pests of potato

1.2. Taxonomic position of pest *Melanotus communis* (Gyllenhal)
Insecta: Coleoptera: Elateridae

2. PROBABILITY OF INTRODUCTION

2.1 Entry

2.1.1 Geographical distribution Absent from the PRA area.

North America: USA (throughout the east from Florida to New York, to west to Arizona, Colorado, South Dakota and Texas).

2.1.2 Major host plants: Polyphagous. Major host plants: maize (*Zea mays*), potato (*Solanum tuberosum*), sweet potato (*Ipomoea batatas*), sugarcane (*Saccharum officinarum*).

2.1.3 Which pathway(s) is the pest likely to be introduced on: Ware or, most probably, seed potatoes with soil attached, from USA.

2.2 Establishment

2.2.1 Crops at risk in the PRA area : Mostly maize and potato. Locally sugarcane

2.2.2 Climatic similarity of present distribution with PRA area (or parts thereof) : There are similar ecoclimatic zones in the area of origin and EPPO region.

2.2.3 Aspects of the pest's biology that would affect establishment : Unlikely to survive transit, larvae cannot disperse easily (would need to be through planting of infected seed potatoes), long life cycle unlikely to aid establishment.

2.2.4 Characteristics (other than climatic) of the PRA area that would affect establishment : Significant hosts grown widely (maize, potato) and sugarcane locally important in the south.
Wireworms are difficult to eradicate.
Natural enemies unlikely to prevent spread.
Low populations difficult to detect.
Eggs difficult to detect.
Can survive in a variety of climatic conditions.
But has shown no tendency to spread.

2.2.5 Which part of the PRA area is the endangered area Southern and central parts of EPPO region.

3. ECONOMIC IMPACT ASSESSMENT

- 3.1** Describe damage potential hosts in PRA area :
Maize: poor establishment (if seeds eaten preventing germination) leading to yield reduction; wilt of older plants due to root feeding; stunting. Damage in patches
Potato: holes in tubers. Reduction of quality leading to downgrading.
- 3.2** How much economic impact does the pest have in its present distribution :
Potato: up to 45% downgrading of crops in 2 years in the 1980s; single most important constraint on potato production in Southern Florida.
Sugarcane: reduction of 5.9 t/ha in Florida. Sugar reduction.
- 3.3** How much economic impact would the pest have in the PRA area :
Would add to damage by species of wireworm already occurring in Europe, but would possibly be controlled by measures already taken.
Reduction of qualitative and quantitative yield.

4. CONCLUSION OF PRA

- 4.1** Summarize the major factors that make the risk from this pest unacceptable :
Polyphagous pest with widely distributed host plants. Occurs in areas with climate close to that of southern part of EPPO region. Pest of crops which are economically and socially important. Additional wireworm problem
- 4.2** Give an estimate of the probability of entry :
Low (seed [ware] potatoes with soil)
- 4.3** Give an estimate of probability of establishment :
Low (not sure to survive in transit, or to transfer to a suitable host)
- 4.4** Give an estimate of potential economic impact :
Medium (yield losses and quality reduction). Would add to other wireworm problems in the PRA area.
- 4.5 Level of uncertainty**
This pest is one of the major wireworm species in North America. It has not spread but the main pathway (potatoes) has so far been closed

5. GENERAL CONCLUSIONS OF THE SECRETARIAT BASED ON THE DISCUSSION AT THE PANEL ON PHYTOSANITARY MEASURES

This pest could have some impact on important crops in the EPPO region. Although entry and establishment are somewhat uncertain, this pest would add to the existing wireworm problem in the EPPO region. The addition of *M. communis* to the A1 List is therefore recommended.

Additional note: this pest, like other soil-inhabiting pests, justifies the need for adequate freedom from soil in imported consignments of ware and seed potatoes.