



Formosan Entomologist

Journal Homepage: entsocjournal.yabee.com.tw

【Scientific note】

甘薯蟻象抗性品種之鑑定【科學短訊】

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Received: Accepted: Available online: 1981/03/01

Abstract

摘要

甘薯蟻象(*Cylas formicarius*)是甘藷的重要害蟲，其在東南亞及其他熱帶與亞熱帶地區，對倉儲及田間甘藷危害甚大。六年前亞洲蔬菜研究發展中心即收集大量甘藷品系進行抗蟻象檢定工作。試驗係在亞蔬中心及澎湖兩地舉行。供試品系植於嚴重被害的品系行間進行檢定。收穫時將塊根切成2.5mm的薄片，然後計算單位重量的害蟲數(幼蟲、蛹及成蟲)。抗蟲系的評估係以蟲數及被害率之平均值與標準偏差的差異來計算。我們篩選了三百多個品系，略具抗性的均在不同季節與地區進行多次試驗，稍能獲得持續的抗性；在至少經過六個不同季節的試驗後，只有I-123及I-152兩個品系顯示出中抗的結果。我們將用這兩個品系作為雜交親本，以育成具有高經濟價值的抗蟻象品種。

Key words:

關鍵詞:

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IDENTIFICATION OF SOURCES OF RESISTANCE TO SWEET POTATO

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ABSTRACT

Sweet potato weevil (*Cylas formicarius*) is a serious pest of sweet potato both in the field and in storage in tropical to subtropical southeast Asia and elsewhere. At the Asian Vegetable Research and Development Center in Taiwan, over six years ago, we launched a large scale cultivar screening program to identify sources of resistance to this pest in the field. The screening is done at two locations in Taiwan. We plant the germplasm between heavily infested source rows of a susceptible sweet potato cultivar maintained in a nursery to minimize escapes. We harvest the roots and cut them into 2.5mm thin slices and count the number of insects (grubs + pupae + adults) per unit weight as well as weigh the damaged root slices. The resistance rating is based on the statistical mean and standard deviation of the insect number and percent root damage as well as a combination of both. Considerable differences in resistance rating is observed from season to season and location to location. We have screened over 300 sweet potato accessions, many of them several times over, to make sure that the resistance reaction is consistent. Only two accessions, I-123 and I-152, have shown a consistent moderate resistance to this insect during at least six seasons. We are using them as parent materials for breeding the resistance into agronomically desirable cultivars.

甘藷蟻象抗性品種之鑑定

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甘藷蟻象 (*Cylas formicarius*) 是甘藷的重要害蟲，其在東南亞及其他熱帶與亞熱帶地區，對倉儲及田間甘藷為害甚大。六年前亞洲蔬菜研究發展中心即收集大量甘藷品系進行抗蟻象檢定工作。試驗係在亞蔬中心及澎湖兩地舉行。供試品系植於嚴重被害的品系行間進行檢定。收穫時將塊根切成 2.5mm 的薄片，然後計算單位重量的害蟲數（幼蟲、蛹及成蟲）。抗蟲性的評估係以蟲數及被害率之平均值與標準偏差的差異來計算。我們篩選了三百多個品系，略具抗性的均在不同季節與地區進行多次試驗，稍能獲得持續的抗性；在至少經過六個不同季節的試驗後，只有 I-123 及 I-152 兩個品系顯示出中抗的結果。我們將用這兩個品系作為雜交親本，以育成具有高經濟價值的抗蟻象品種。