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【Scientific note】

台灣甘蔗害蟲之管制【科學短訊】

潘榮松

*通訊作者E-mail:

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Abstract

摘要

台灣甘蔗每年收穫面積約為10萬公頃，平均產糖量達80萬公噸。本省蔗園常見之甘蔗害蟲計有28種，其中7種即因為害嚴重而被視為重要害蟲。除甘蔗綿蚜蟲(*Ceratovacuna lanigera*)、蔗龜(*Alissonotum impressi-colle*)、及金針蟲(*Melanotus tamusuyensis*)外，此等重要害蟲難以化學防治加以控制。台灣斑紋浮塵子(*Matsumuratettix hiroglyphicus*)族群密度於12-4月間急激減低，使春植甘蔗白葉病之發生大為減少。因此，可採用春植避免該媒介昆蟲傳播白葉病。甘蔗黃螟(*Argyroploce schistaceana*)、條螟(*Proceras venosatus*)及二點螟(*Chilo traea infuscatella*)對幼蔗及成蔗節間部之為害因定期釋放赤眼卵寄生蜂(*Trichogramma australicum*)而顯然減少，目前各糖廠均大量繁殖該寄生蜂，每年期釋放7-10個月，釋放量達100,500/公頃。此外，亦採用實生苗選拔方法探究甘蔗種源對黃螟之抵抗性。草蟬(*Mogannia hebes*)若蟲之為害能引起宿根萌芽不良，將 *Isaria sinclairi* 菌施用於土中後若蟲被寄生率即見增加。蔗龜及金針蟲為害之經濟臨界點已闡明，並於植前施用 Thimet, Terracur P 或 Co-unter (3kg a. i. / ha) 防治此等害蟲。甘蔗收穫後深耕及被害嚴重蔗園種植水稻等措施，對地下害蟲之防治亦頗具效果。目前正在探究非持久性殺蟲劑施用方法之改善及蔗園地下害蟲綜合防治法之發展。

Key words:

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MANAGEMENT OF SUGARCANE INSECT PESTS IN TAIWAN

Y.S. Pan

Department of Plant Protection

Taiwan Sugar Research Institute

ABSTRACT

About 100,000 ha of sugarcane are harvested every year in Taiwan, and the sugar production amounts to an average of 800,000 tons/year. Although 28 species of insect pests have been commonly found in sugarcane fields, 7 species are considered to be the major pests. Chemical control of the major pests, except the sugarcane woolly aphid, *Ceratovacuna lanigera*, white grubs and wireworms, has been found to be impractical.

The population of *Matsumuratettix hiroglyphicus* declines rapidly during December to April, resulting in low incidence of white leaf disease on spring cane. Thus, spring planting of sugarcane has been practiced to prevent transmission of the disease by the vector. Periodical release of *Trichogramma australicum* has resulted in lower levels of larval infestations of *Argyroplote schistaceana*, *Proceras venosatus* and *chilotraea infuscatella* on young plants and the internodes of cane stalks. The parasite is mass-produced in each sugar mill and released into fields at a rate of 100,500/ha during a period of 7-10 months every year. Sugarcane seedling evaluation was applied for screening sugarcane germ plasm for resistance to *A. schistaceana*. Release of *Isaria sinclairri* in the soil resulted in considerable increase in percent parasitism of *Mogannia hebes* nymphs causing depressed germination in ratoon.

Economic thresholds were established for the sugarcane white grub, *Alissonotum impressicolle*, and the wireworm, *Melanotus tamsuyensis*. Preplanting application of Thimet, Terracur P or Counter granules at the rate of 3kg a.i./ha has been recommended to replace aldrin and heptachlor for the control of these insects. Deep plowing of the soil after harvest of sugarcane and growing of paddy rice in the severely infested fields also play an important role in soil insect control. Studies are underway to improve application methods of the nonpersistent insecticides, and also to develop integrated management program for the important soil insects.

Note: The full paper of this abstract is already published in Taiwan Sugar 28(1): 22-25.

台灣甘蔗害蟲之管制

潘榮松

台灣糖業研究所植物保護系

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