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## Seasonal incidence of the green peach aphid (*Myzus persicae*) and the turnip aphid (*Lipaphis erysimi*) on common cabbage in the field. 【Research report】

### 甘藍菜上桃蚜及偽菜蚜之田間季節消長【研究報告】

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#### Abstract

Population growth and dispersion pattern of green peach aphid (GPA), *Myzus persicae* and turnip aphid (TA), *Lipaphis erysimi* were studied in the field in central Taiwan. Observations were made on the population build-up of GPA and TA in two seasons (Feb.-Mar. and Sept.-Oct.) on common cabbage. Higher numbers of alatae adults than nymphs and apterous adults of both species were found at the beginning. However, the proportion of apterous aphids increased as time proceeded. Population density of GPA and TA increased with time on the first trial at ratios (GPA/TA) of 0.83, 1.32, 3.96, and 4. Turnip aphids were dominant at the second trial at ratios (GPA/TA) of 0.75, 0.4, 0.21, 0.49, and 2.4. Study on the inter-plant distribution showed that the percentage of aphid-free plants was high when population densities of both aphids were low and it decreased while the population densities increased. In the within-plant distribution, the numbers of aphids of both species per leaf increased with an increase in time. Green peach aphids, evenly distributed on newly formed leaves rather on old leaves. Turnip aphids, however, preferred the middle leaves and the young leaves. In the intensive observations of the changes of the age structure, the numbers of 3-4 instar nymphs with wing-pad increased rapidly and appeared to disperse as the populations of both species reached the peak from Oct. 18-23, 1982. Fungal pathogen, *Entomopathora aphidis* and parasite, *Apanteles* spp. Were also found during the sampling period.

#### 摘要

本試驗係在臺灣中部地區進行，連續兩季（二月至三月、九月至十月）觀察桃蚜（*Myzus persicae*）及偽菜蚜（*Lipaphis erysimi*）在田間甘藍菜上之消長情形。兩種蚜蟲在棲群建立之初，有翅成蟲的棲群密度都顯著高於無翅成蟲及若蟲的密度。但無翅成蟲的棲群密度會逐漸增加。第一次試驗，桃蚜及偽菜蚜的密度皆隨時間之進行而增加，桃蚜 / 偽菜蚜的比率為0.83、1.32、3.96及4。第二次試驗時偽菜蚜棲群密度較高，桃蚜 / 偽菜蚜的比率為0.75、0.4、0.21、0.49和2.4。二種蚜蟲的棲群密度高時，則無蚜蟲為害的植株百分率下降。在株內分佈研究中，二種蚜蟲數目會隨植株生長期之進行而增加。一般桃蚜呈均勻分佈於新形成之葉片上；而偽菜蚜則較喜歡中老葉甚於新葉。在密集觀察蚜蟲的年齡結構變化時，於10月18-23日時棲群密度達最高峰，此時3-4齡的若蟲具翅芽者數目急劇上升似與形成有翅型以便分散有關。在調查期間蟲生真菌*Entomophthora*屬與小繭蜂*Apanteles*屬均曾出現。

**Key words:** green peach aphid, turnip aphid, seasonal incidence

**關鍵詞:** 桃蚜、偽菜蚜、季節消長。

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# 甘藍菜上桃蚜及偽菜蚜之田間季節消長

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