

RESEARCH NOTE

An improved method for rearing green peach aphid *Myzus persicae* (Sulzer)

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INTRODUCTION

Green peach aphid, *Myzus persicae* (Sulzer) (Homoptera: Aphididae) is an extremely polyphagous species which has been reported to feed on more than 500 species of host plants from 40 plant families including several agriculturally important crops under field as well as in green house conditions (Blackman and Eastop, 2007). In addition to direct losses caused by sucking the vital cell sap from the plant-parts by both nymphs and adults, the aphid is capable of transmitting more than 150 viral diseases in different hosts particularly in Solanaceous vegetables (Cloyd and Sadof, 1998). Bioassays to evaluate *M. persicae* control methods generally requires a consistent supply of healthy aphids.

Gorham (1997) reared *M. persicae* in various styles of cages using whole plants and plant parts as food. Foods commonly used include germinated Chinese cabbage, *Capsicum annuum* (Bosland and Ellington, 1996). Factors such as micro-climate, quality and longevity of the host culture medium, and infestations from predatory or parasites challenges to the development of a successful rearing protocol (Loomans & Murai, 1997). Cage design is critical for maintaining microclimate, and choice of pupation medium can

restrict or eliminate parasitoid infestations.

It has been found that previously described methods are highly prone to parasitoid infestations. In addition, the methods are often inefficient and some required considerable specialized equipment. Here, we describe a protocol for rearing aphids and other small insects using whole plant as a host plant.

The laboratory population was initiated from adults collected on *C. annuum* in polyhouse. The culture was maintained at $26 \pm 3^\circ\text{C}$ and $37 \pm 7\%$ relative humidity in a room that received natural light from a large window.

Adults from pure progeny were released on younger leaves of four week old potted plants (with one adult / leaf) of *C. annuum* in the lab. The released aphids were covered with leaf cages in order to restrict their movement on the selected leaf of the plant. The modified cage was prepared with the help of two lightweight, transparent plastic plates of equal size ($9.5\text{cm} \times 9.5\text{cm} \times 3\text{cm}$). The leaf was inserted carefully through the cut made on one side of the plate lower plate and it was covered with second plate (upper plate) kept over the lower plate in an inverted position. The edges of the two plates were fixed tightly with binding pins in such a manner that the upper plate can be removed and re-fixed easily. Before using the second plate as cover of the cage, its bottom surface was