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Developing a scale to assess the Spiralling Whitefly, *Aleurodicus disperses* Russel (Hemiptera: Aleyrodidae), infestation on cassava (*Manihot esculenta*)

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Spiralling whitefly, *Aleurodicus dispersus* Russel (Aleyrodidae) is a highly polyphagous quarantine pest, spread in tropical and subtropical region of the world. As direct feeders of cell sap whiteflies affect adversely on growth and act as vectors of viruses and spread plant diseases, of many agricultural and non-agricultural plants. This pest can be managed by the means of biological control with the use of coccinellid predators. In this process, it is necessary to make samples and assess the whitefly infestations in relation to many laboratory and field studies. In order to facilitate the assessment of whitefly populations, a study was conducted to develop a scale to measure the whitefly infestation in cassava. Whitefly infected cassava leaves were collected from cassava fields in Dholuwa-Kandy for one cropping season. Leaflets of collected leaves were separated (leaflet length 14.29 ± 0.43 cm, width 3.53 ± 0.21 cm and leaf area 57.86 ± 6.34 cm^2) (n= 80). Each leaflet was examined separately under the binocular light microscope (10x4) and each growth stages (eggs, instar 1, instar 2, instar 3 and instar 4) of the whitefly were counted based on the four whitefly infestation levels (25%, 50%, 75% and 100%). The variation of eggs appears to have a more or less linear relationship with the area of infestation, but not the other growth stages. When total number of eggs is considered, a significant linear relationship ($r^2 = 87.1\%$, $F_{(1, 78)} = 524$ $p < 0.001$) with infestation level was found which can be expressed as y =2.58 x +8.33. When total number of instars is considered, a significant linear relationship ($r^2 = 95.1\%$, $F_{(1, 78)} = 1521$ $p < 0.001$) with infestation level was found which can be expressed as y =3.332 x +2.275. Eggs represented 80%, out of the total number of counted individuals. Significant relationships were observed between the area of infestation and instar 1, instar 2 and instar 3 but not with instar 4. Having considered these relationships, number of whitefly stages or the egg numbers can be predicted by examining the area of the infestation of the leaf, in this case cassava. There is a possibility, this pattern may be true for other crops but exact relationship is needed to be established, with a separate study.

Keywords: Spiralling Whitefly, Instar, Cassava, Infestation area