

## **Acaricidal Efficacy of Non-pesticide Materials to the Kanzawa Spider Mite, *Tetranychus kanzawai* Kishida (Acari: Tetranychidae) on *Annona squamosa* L.**

**Yu-Tzu Hsu<sup>1</sup>**

### **Abstract**

For the control of kanzawa spider mite (*Tetranychus kanzawai* Kishida) in custard apple field, effect of fourteen non-pesticide materials including mineral oil, plant essential oil, fatty acid salt, saponin, vinegar, urea, and diatomaceous earth on adult female of kanzawa spider mite were examined under laboratory conditions. Results revealed that the mortalities of kanzawa spider mite treated with mineral oil 2 ml/L and castor oil 2, 3.3, and 5 ml/L, castor-camphor oil mixture 3 ml/L, and neem oil-rice hull vinegar mixture 5 ml/L concentration were higher than 65% at 72 h after treatment. We selected castor oil 3.3 ml/L, castor-camphor oil mixture 5 ml/L and neem oil-rice hull vinegar mixture 5 ml/L for field trial. the treatment of castor-camphor oil mixture gave a control rate of around 70% to *T. kanzawai*, and showed promising to be applied in custard apple field to control *T. kanzawai* especially before harvest.

**Keywords:** Non-pesticide materials, *Annona squamosa* L., *Tetrynuchus kanzawai*

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<sup>1</sup>Assistant Researcher of Taitung DARES, COA