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Disinfestation of Harvest Celery Apium graveolens var. dulce Using Low Temperature as Quarantine Treatment for Springtails Hypogastrura vernalis (Carl) (Collembola: Hypogastruridae)

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Abstract : Celery (Apium graveolens var. dulce) is grown in Australia for domestic consumption and export markets. Quarantine treatment enables export of celery to the world that enforces quarantine against springtails. In the field, celery bunches become host to the Australian native springtail (Hypogastrura vernalis) (Collembola: Hypogastruridae). Springtails live inside the celery bunch and do not cause damage to the product. Springtails are, however, considered a quarantine pest and have had a significant impact on celery exports. In this experiment, cold treatments were conducted on fresh celery to investigate their effect on springtail mortality. Four low-temperature treatments were used (3, 5, 10, and 15 ºC) over four treatment periods (3, 5, 7, and 14 days). Springtail mortality was not affected by the 3, 5, 10 and 15 ºC treatments for the treatment periods of 3, 5, 7, and 14 days. Low-temperature damage was observed most noticeably on celery in the 3 and 5 ºC treatments.

Keywords : springtails, fresh celery, cold treatment, quarantine treatment
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