บทคัดย่อ

[illegible]

[illegible] 2545

[illegible]: [illegible]

[illegible]/[illegible]: [illegible]

[illegible] ($KClO_3$) [illegible] 2x3 factorial in CRD [illegible] ([illegible]) [illegible] (3 [illegible]) [illegible] 2 [illegible] 0, 50 [illegible] 90 [illegible] 1 [illegible]/[illegible] [illegible] 1.75 [illegible] 50 [illegible] 90 [illegible] 4.50 [illegible] 5.50 [illegible] 90 [illegible] 90 [illegible]

[illegible] (GA_3) [illegible] (zeatin) [illegible] 1-2 [illegible]

18-24

ABSTRACT

THE EFFECTS OF LIGHT INTENSITY WATERING RATE ON FLOWERING INDUCTION, AND THE QUANTITATIVE CHANGES OF GIBBERELLIN AND ZEATIN IN THE SHOOT APICES OF LONGAN CV. E-DAW PRIOR TO AND AFTER NATURAL FLOWERING AND AFTER THE TREATMENT OF POTASSIUM CHLORATE

BY

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The effects of shading and watering rates on $KClO_3^-$ treated pot-grown longan trees, were investigated. $KClO_3$ was applied to trees at the beginning of the experiment, at the rate of one gram per pot. The experimental design employed was a 2x3 factorial in CRD. The first factor was the level of watering; sufficient (replaced the amount lost by evapo-transpiration) and high (3 times the amount lost by evapo - transpiration). The second factor was the level of shading; 0, 50 and 90%. The results of this study showed that longan trees which received sufficient watering flowered 1.75 times more than those with high watering rate. The non-shaded and the 50%-shaded trees flowered 4.50 and 5.50 times more than the 90%-shaded ones. Furthermore, 90%-shading delayed flowering the most. There was no interaction between the two factors studied. On the physiological aspect, the level of watering had no effects on leaf water potential, chlorophyll content and photosynthetic rate. However, 90% shading reduced photosynthetic rate significantly.

The changes of gibberellin and zeatin contents in the shoot apices of longan cv. E-Daw were studied both under natural (in season) and artificially induced flowering (off -season) by applying $KClO_3$. Under natural cool flowering induction, gibberellin reached its minimum level 1-2 weeks before flower bud emerged and increased during flower bud

elongation. Zeatin level was increasing, and reached the highest level around the time the flower emerged, and decreasing afterwards. In an off-season flowering induction, gibberellin content remained relatively unchanged. Zeatin increased gradually before flower bud emerged and reached its peak at the period when flower bud emerged, 18-24 days after the treatment of $KClO_3$.

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