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KEY WORD: MULBERRY/WATER STRESS/PROLINE ACCUMULATION/GROWTH ANALYSIS

PRATEEP MEESILPA: RESPONSES OF MULBERRY CULTIVARS TO WATER

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Five mulberry cultivars namely, Buriram 60, Noi, Khunpai, Tak and Yaiburiram were subjected to water stress. Their responses to water stress were examined by determinations of proline accumulation, insoluble protein, relative water content and chlorophyll content. The cultivars responded to water stress by accumulating proline as well as increasing their insoluble protein contents. In contrast, their relative water contents and chlorophyll contents were significantly decreased in concomitance with their wilt symptoms. However, contrary results were observed after rewatering. Plant growth analysis were also investigated. Vegetative growth was clearly affected by water stress.

Of the 5 cultivars studied, Khunpai seem to be the most resistant cultivar to drought. It was also the first cultivar to recover from water stress when normal water relations were restored.

To sum up, this study shows that determinations of proline accumulation, insoluble protein content, relative water content, chlorophyll content as well as plant growth analysis are useful for screening drought resistant mulberry cultivars.