Malate Accumulation in Different Organs of *Mesembryanthemum crystallinum* L. Following Age-dependent or Salinity-triggered CAM Metabolism

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Different organs of *Mesembryanthemum crystallinum* exhibit differing levels of CAM (Crassulacean acid metabolism), identifiable by quantification of nocturnal malate accumulation. Shoots and also basal parts of young leaves were observed to accumulate high concentrations of malate. It was typically found in mature leaves and especially prominent in plants subjected to salt stress. Small amount of nocturnal malate accumulation was found in roots of *M. crystallinum* plants following age-dependent or salinity-triggered CAM. This is an indication that malate can be also stored in non-photosynthetic tissue.

Measurements of catalase activity did not produce evidence of the correlation between activity of this enzyme and the level of malate accumulation in different organs of *M. crystallinum* although catalase activity also appeared to be dependent on the photoperiod. In all material collected at dusk catalase activity was greater than it was observed in the organs harvested at dawn.

Key words: Mesembryanthemum crystallinum, CAM, Catalase, Oxidative Stress