

COMMERCIAL QUARANTINE FUMIGATION OF NARCISSUS
BULBS TO CONTROL NARCISSUS FLIES

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Fumigation trials were carried out in commercial flexible plastic fumigation chambers using methyl bromide (MB) for quarantine control of narcissus flies in narcissus bulbs. The objective was to examine the suitability of existing dosage schedules when fumigation is performed in these chambers, in view of previously recorded phytotoxic damage by MB at the recommended dosage levels. It was found that for the 4 hour exposure regime required for quarantine purposes, recirculation was necessary to produce initial uniform concentrations. Also, dosage had to be adjusted to account for the volume of free space within the fumigation chambers and sorption by the bulbs. Since a significant CO₂ concentration was generated by bulb respiration during fumigation, MB concentrations registered by thermal-conductivity (TC) monitors were affected. An initial dosage of 24g/m³ resulted in unification of MB concentrations at different heights after 1 hour of recirculation at close to 20 g/m³. A stable concentration was maintained throughout the remaining exposure period.