

Seeds of a high-oil-yielding strain of *M. chamomilla* [*Chamomilla recutita*] were sown in a nursery and the seedlings were planted in the field 4 weeks after germination. Four rates each of P (0, 40, 80 and 120 kg P₂O₅/ha) and N (0, 50, 100 and 150 kg/ha) were applied in various combinations. Flower harvesting began when 50% of the plants were in flower (78 days after planting) and continued at 2-week intervals for 98 days, giving 8 harvest dates. Only flower heads with more than 40% open tubular florets were harvested. Data are presented on dry flower yield, essential oil yield per unit DW of extracted flowers and per 4-m² plot, and oil composition (% chamazulene, isabolol, *cis*-spiroether, bisabololoxide A and bisabololoxide B). Flower yield rose with increasing plant age; it reached a maximum 134 days after planting and thereafter decreased. The essential oil content/unit DW decreased significantly with advancing plant age, but was always greater than 0.6%. Oil composition differed significantly with plant age; chamazulene and isabolol contents were high and those of bisabololoxides low up to 134 days after planting.