

## عنوان مقاله:

The effect of pinching and row spacing on biomass, essential oil content and composition of *Tagetes minuta*

## محل انتشار:

سومین کنگره بین المللی و چهارمین همایش ملی زیست فناوری گیاهان دارویی و قارچهای کوهی (مجازی) (سال: 1400)

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## نویسندگان:

Leila Mehdizadeh - *Department of Horticultural Science and Landscape Engineering, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

Mohammad Moghaddam - *Department of Horticultural Science and Landscape Engineering, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

## خلاصه مقاله:

*Tagetes minuta* L. from the Asteraceae family is an annual perennial herb, important herbaceous aromatic essential oil plant species that grows wild from spring to early winter (Pandey et al., ۲۰۱۵). Pinching is the manual amputation of the growing tips of plants. The practice is managed commonly by preventing the influence of apical dominance, to promote the flourishing growth of the canopy (Kumar et al., ۲۰۱۴). Plant spacing is an effective factor in the quantity and quality of plant products that affect directly on plant growth and essential oil content. Therefore, a field experiment was conducted to study the effect of pinching and cultivation row spacing on biomass, essential oil content and composition of *T. minuta*. The treatments comprised of two pinchings (pinching and without pinching) and three row spacing (۳۰, ۴۰, and ۵۰ cm). The findings of this experiment showed that the highest aboveground biomass, antioxidant activity, and essential oil content were observed in ۵۰ cm row spacing with pinching. The oil analyses by GC and GC/MS resulted in the identification of ۲۹ compounds representing ۹۳.۸۳-۹۶.۹۸% of the oil. The major constituents were dihydrotagetone (۳۹.۱۹%),  $\beta$ -ocimene (۲۰.۹۹%), tagetone (۱۵.۸۴%), limonene (۷.۰۴%), and (E)-ocimenone (۶.۳۲%). The highest percentage of each constituent were obtained in different treatment as following: dihydrotagetone in ۴۰ cm row spacing without pinching,  $\beta$ -ocimene and limonene in ۴۰ cm row spacing with pinching, tagetone and (E)-ocimenone in ۵۰ cm row spacing without pinching. It can be concluded that essential oil content and composition are influenced by pinching and row spacing.

## کلمات کلیدی:

Antioxidant activity, Dihydrotagetone, Essential oil compound, *Tagetes minuta*

## لینک ثابت مقاله در پایگاه سیویلیکا:

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