

**Title** The fluctuation in essential oils content and some plant biochemical characteristics in anis hyssop (*Agastache foeniculum* [Pursh] Kuntze) under drought conditions

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### Abstract

Anis hyssop (*Agastache foeniculum* [Pursh] Kuntze) herbaceous plants, aromatic perennial that belong to Lamiacea family in North American origin have been reported. Analgesic properties, anti-seizure and anti-inflammatory and Anti-inflation to treat an inflammation of the stomach, liver and severe swelling of the prostate for the treatment used scored well in the Mexican food and soft drink will be used. Given the geography of the land characteristic of our country and effect drought stress on crops in detail has been studied, but unfortunately the medical plants that may even be a positive effect on medicinal properties, comprehensive and detailed research has been done. This experiments in randomized complete block design with seven treatments in three replications. In this investigation changes in the amount of essential oil and anti-oxidative enzyme activity Anis hyssop (*Agastache foeniculum* [Pursh] Kuntze) in stress conditions dry with seven stress treatments Irrigation (1:100% field capacity, 2:85% of field capacity, 3:70% of field capacity, 4:55% of field capacity, 5:100 % field capacity (vegetative stage) - 85% field capacity (reproductive stage), 6:100% field capacity (vegetative stage) -70% of field capacity (reproductive stage) 7:85% field capacity (vegetative stage) -100% field capacity (reproductive stage). On the amount of essential oil, anti-oxidative enzymes (catalase, Glatation peroxidase, superoxide dismutase), biological markers (malon dialdehyde and dy trosine) and the hormone abscise acid were studied. The results showed the highest amount of enzymes, anti-oxidative, Biomarkers and acid abscise in harvest samples from the field for treatment of drought stress with volumetric moisture content of 55% field capacity showed it can be concluded that each of these attributes can be as an indicator of plant resistance and stress levels are measured. The highest percentage of essential oils was in treatment 55% field capacity. So can be to extract more essential oils from this plant can be used dry and semi arid areas.