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**ALLELOPATIC EFFECTS OF *ACHILLEA MILLEFOLIUM* AREAL
PART EXTRACTS ON SORGHUMBICOLOR (VAR. KIMIA)**

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Achillea millefolium is a medicinal plant belongs to Asteraceae. It has been for treatment of hemorrhage, pneumonia, rheumatic pain and wounds healing in Persian traditional literature and as, anti- inflammatory, anti-spasmodic, diuretic and emmenagogic agents. In recent years, use of allelopathic effects on weed management has attracted many researcher, herbal extracts by positive and negative interactions on living organisms have good potential in this field. Flower and leaves of *A. millefolium* were collected from Plour in Iran and then yarrow extracts were obtained by fractionation in *n*-hexane, ethanol and distilled water with sonication (15min) and fallow the latest maceration (24 h) method. The extracts were used at concentrations of 0.75%, 1.25%, 2.5%, 5% and 7.5%in basal MS media, after that sorghum seeds were sterile and cultured on that. All treatments have shown significant allelopathic effects. Flower extracts at lower concentrations had strongereffect thanleaf extracts. After 21 days, reduced in the plantgrowthrate, negative geotropism of the roots, limited rhizogenesis and decrease in Internode length and leaf area were observed. Treatment with high concentration of the extracts caused to necrosis in the sorghum root at early stage and black root exudates was appeared around roots.The greatest allelopathic effect of *n*-hexane extract was done by 7.5% concentration but aqueous leaf and flower extract had same effect, respectively, at 2.5% and 1.25% concentrations. The results showed that different extract of the yarrow can be used for herbicides purposes.

References

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