## عنوان مقاله:

.Uptake and distribution of phenanthrene and pyrene in roots and shoots of maize (Zea mays L)

## محل انتشار:

بیستمین کنگره ملی و هشتمین کنگره بین‌المللی زیست‌شناسی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

Polycyclic aromatic hydrocarbons (PAHs) as a byproduct of carbon-based fuel combustions and are an important group of pollutants with a wide distribution in the environment. PAHs are toxic for almost all organisms, and plants can uptake such compounds by roots and translocate to various aerial parts. Accordingly, the aim of this study was to investigate the uptake, translocation, and accumulation of pyrene and phenanthrene, as frequent PAHs in the environment, in maize plants using an experimental study under controlled conditions. Seeds were cultivated in perlite containing 25, 50, 75, and 100 ppm of phenanthrene and pyrene and their concentrations in the roots and shoots of the plants were measured by using High-Performance Liquid Chromatograph (HPLC) after 7, 14, and 21 days. The results have demonstrated that phenanthrene naturally existing in maize and its concentration in shoots and roots decreased over time. In contrast, pyrene concentration increased in the roots but reduced in the shoots. In addition, pyrene had higher uptake rate than that of phenanthrene by roots of maize. However, its translocation factor was lower than that of phenanthrene. According to these findings, phenanthrene could be metabolized in maize in both shoot and roots, but pyrene had more tendencies to be accumulated in roots.

## کلمات کلیدی:

Maize, Phenanthrene, Pyrene, Uptake rate, Translocation

## لینک ثابت مقاله در پایگاه سیویلیکا: