

عنوان مقاله:

Relationship Between Soil Seed Bank and Above-ground Vegetation of a Mixed-deciduous Temperate Forest in Northern Iran

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خلاصه مقاله:

We assessed the size and composition of the soil seed bank and above-ground vegetation in ۵۲ relevés representing a range of habitats within an old- growth, temperate deciduous forest at Hyrcanian region, northern Iran. We identified ۶۳ taxa in the seed bank, with an average density of ۴۲۰۲ seeds/spores per m^۲ by seedling emergence method. *Hypericum androsaemum*, *Cardamine impatiens*, and *Rubus hyrcanus*, with *Athyrium filix-femina* and *Pteris cretica* as two ferns, were the most abundant species in the seed bank and spore bank that made up to ۹۲ % of the seeds/spores recorded in the soil seed bank. Totally, ۱۰۷ species were recorded in the vegetation and soil seed bank of the study site, of which ۳۳ % were common in both seed bank and vegetation and ۲۶ % and ۴۱ % were found only in the seed bank or in the vegetation, respectively. The dominant tree species with many woody understory species found in the above- ground vegetation were absent from the persistent soil seed bank. Jaccard's similarity coefficient revealed that the correspondence between the species in the vegetation and the same species in the seed bank were consistently low (average of ۲۴.۳%) based on presence/absence data. Yates- corrected c^۲ test showed that sites present significant differences ($P < 0.001$) in seed bank and vegetation species composition. DCA ordination of the above-ground vegetation and soil seed bank flora displays a clear pattern, with two distinct groups on the basis of the above-ground vegetation and soil seed bank floristic data. Our results explain the low similarity between soil seed bank and vegetation of the Darkola oriental beech (*Fagus orientalis* Lipsky) forest only to a limited extent, but confirm that most of the species of the above-ground vegetation do not depend on the persistent soil seed bank. Therefore, it may be concluded that the persistent soil seed bank is not capable of restoring the extant vegetation of the studied site.

کلمات کلیدی:

Antinutrients, Fermentation, Minerals, Protein, Sorghum lines

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