

عنوان مقاله:

Influence the status of soil chemical and biological properties by intercropping

محل انتشار:

مجله بین المللی بازیافت مواد آلی در کشاورزی، دوره 3، شماره 1 (سال: 1392)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Background Intercropping systems significantly influence chemical and biological properties of the soil. Our objective was to evaluate the effects of intercropping system on soil organic carbon (SOC), total Kjeldahl nitrogen (TKN), available N, P and K, soil microbial biomass carbon (MBC) and microbial biomass nitrogen (MBN) under geranium (*Pelargonium graveolens* L.)-based intercropping systems. Results Geranium-based intercropping (with cereals, pulses, fodder, and vegetables) resulted in increase of SOC and TKN by 7.8–69.2 % and 10.7–92.8 %, respectively, over geranium alone. Similarly, microbial respiration was higher under geranium intercropped with oat (36.3 %) followed by wheat (30.5 %) and barley (12.5 %) as compared to that under geranium alone. Soil MBC accounted for 3.3–4.7 % of SOC content and soil MBN accounted for 3.1–3.5 % of TKN under different intercropping conditions. A higher CO₂ evolution rate and a wider soil MBC/MBN ratio were recorded with cereals and fodders. Conclusions It is concluded that the build-up of the organic matter and enhancement of soil MBC in the intercropping study should promote long-term stability of soil health.

کلمات کلیدی:

Geranium Intercrops Soil microbial biomass C Soil microbial biomass N Sustainability SOC TKN

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