研究报告

枣园节肢动物群落结构及其模糊聚类分析

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摘要

根据群落生态学原理，为了利用天敌资源开展枣园害虫的生物防治，明确主要害虫及其天敌发生的时间动态和数量动态，对枣园节肢动物进行了系统调查，共查到52种，分属47科.蜘蛛类的相对丰盛度最高，为0.3465,瘿蚊科的相对丰盛度为0.2309，二者在群落中所占比例较高.6月8日和9月21日是枣园节肢动物群落个体数量的两个峰值期.对不同时期的整个群落及各亚群落进行模糊聚类，确定阈值T=0.92，各次调查的整个群落分为4类：3月22日、4月6日和11月22日各自归为一类，其余归为一类；当阈值T=0.94时，不同时间的天敌亚群落聚为3类：3月22日、4月6日各自归为一类，其余归为一类；而非天敌亚群落聚为4类：3月22日、4月6日和6月8日各自归为一类，其余归为一类.聚类结果反映了群落特征的季节差异，聚类交替现象则反映了群落结构在较长时间内的复杂性.

关键词　　枣园,节肢动物,群落结构,时间动态,模糊聚类

分类号

Arthropod community structure and its fuzzy clustering analysis in jujube orchard

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Abstract

Based on the principles of community ecology and by the method of fuzzy clustering,this paper studied the temporal and quantitative dynamics of the arthropod community and sub-community in jujube orchard(Feidong 2003),aimed to utilize natural enemy resources for pest control.There were 52 species of arthropod belonging to 47 families in the orchard.Arachnida and Cecidomyidae had a higher relative abundance than other families being 0.3465 and 0.2309,respectively.The individuals of the arthropod community were the highest on8 June and 21 September.The total community and pests-neutral insect sub-community could be clustered into 4 clusters, respectively. For total community,the clusters (T=0.92) were those on 22 March,6 April,22 November,and on other dates,and for pests-neutral insect sub-community,they (T=0.94) were those on 22 March,6 April,8 June,and on other dates.The natural enemy sub-community could be clustered into 3 clusters (T=0.94),i.e.,those on 22 March,on 6 April,and on other dates.The results of cluster analysis partly reflected the seasonal differences of total community and sub-community,while the temporal overlaps of cluster results reflected the complexity of community structure.

Key words　 Jujube orchard　 Arthopod　 Community structure　 Temporal dynamic Fuzzy clustering

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