

## عنوان مقاله:

Study on the Effect of Rainfall Level on the Size of Silver Nanoparticles Synthesized by Plants of the Lamiaceae Family in Different Regions of Iran

## محل انتشار:

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## خلاصه مقاله:

Nanotechnology could be a very important field of recent research dealing with medical, industrial, environment. Silver nanoparticles are the topics of researchers because of their distinctive properties (size, shape depending optical, antimicrobial, and electrical properties). The synthesis of safe nanoparticles by biological organisms is recommended due to the environmental friendliness and low costs compared to physical and chemical methods. Recently, researchers tend to use a biological synthesis of nanoparticles by biological methods such as plants. This research aimed to study on the rainfall level on the biosynthesis of silver nanoparticles by Lamiaceae family plants in different regions of Iran. T-test student was used to examining the relationship between the size of nanoparticles and rainfall, using spss version 22 software. The study shows phenol concentration in low rainfall areas is more than high rainfall area, which is the main factor for the synthesis of nanoparticles. The result of the study demonstrated that the highest size of synthesized nanoparticle is 50 nm and the lowest size 10 nm, which are related to high rainfall and low rainfall regions respectively. The results showed the relationship between synthetic nanoparticles sizes and rainfall are significant  $p\text{-value} < 0.05$ . As the present study could be, conclude that the rainfall amount is effectively factor for the synthesis of the nanoparticle while other factors such as temperature, altitude and climate play a key role for .properties of the plant, which is affect for size of nanoparticles

## کلمات کلیدی:

Plant, Green synthesis, Nanoparticle, Climate

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