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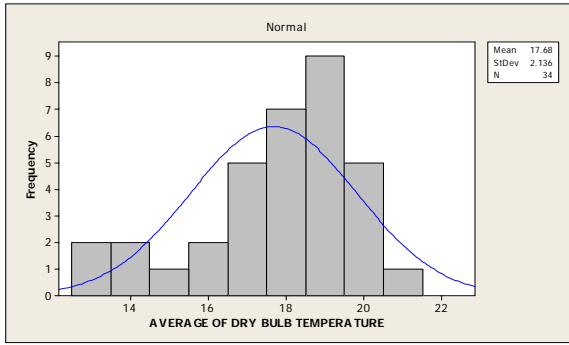
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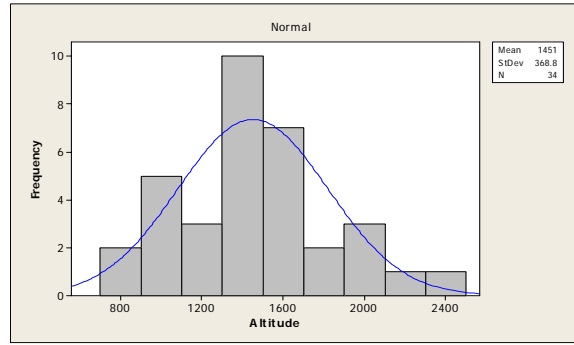
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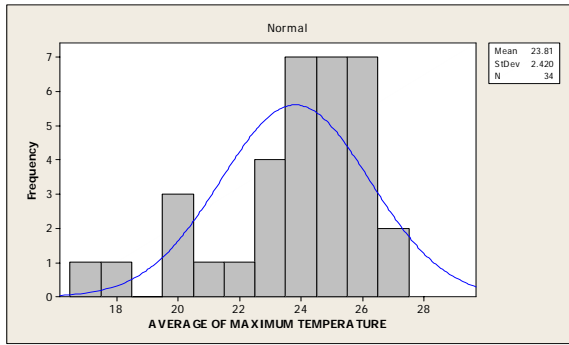




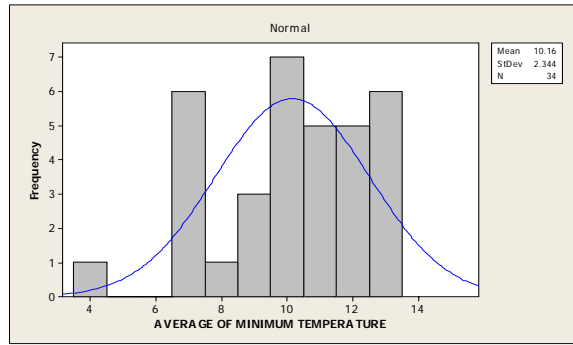
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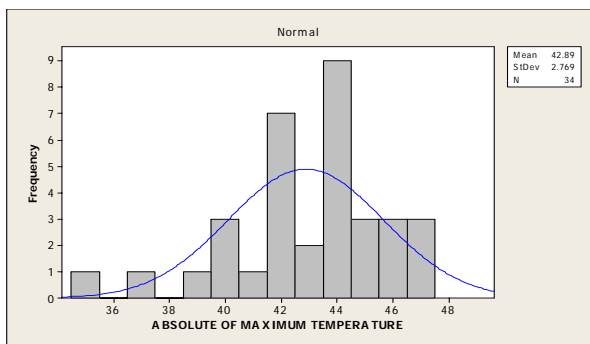
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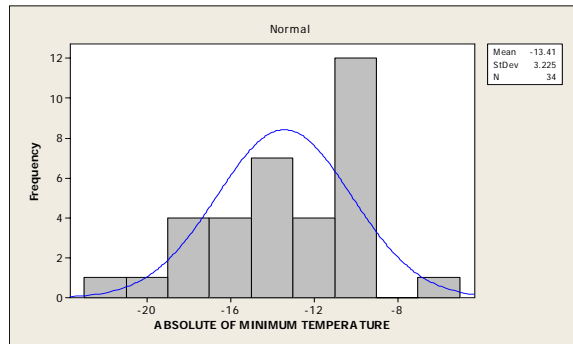
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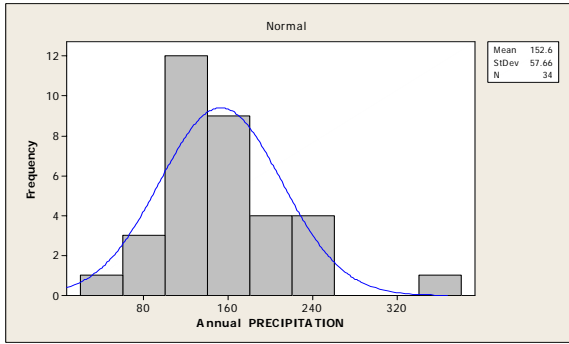
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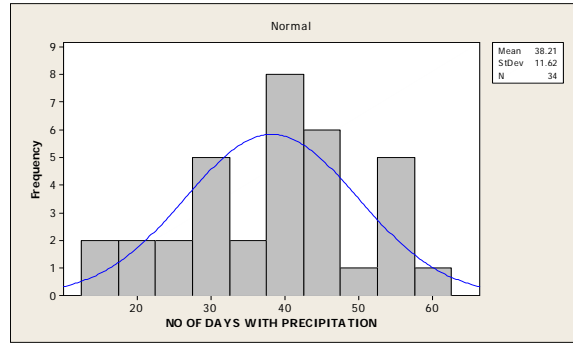
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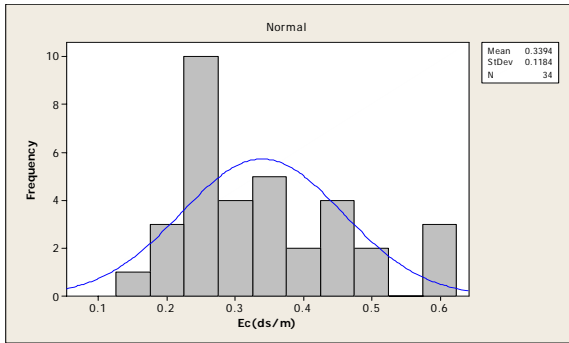
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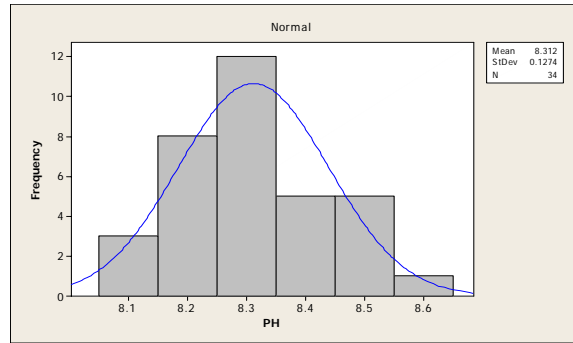
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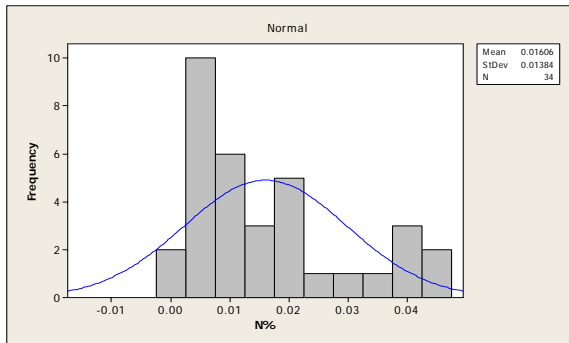
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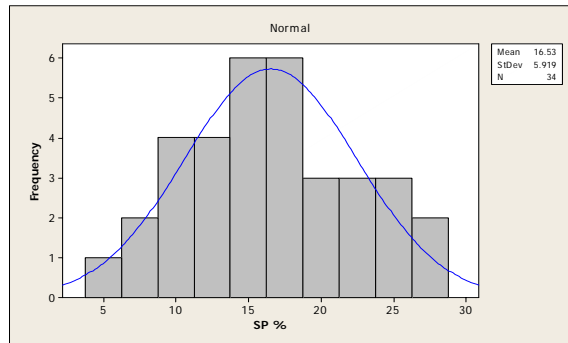
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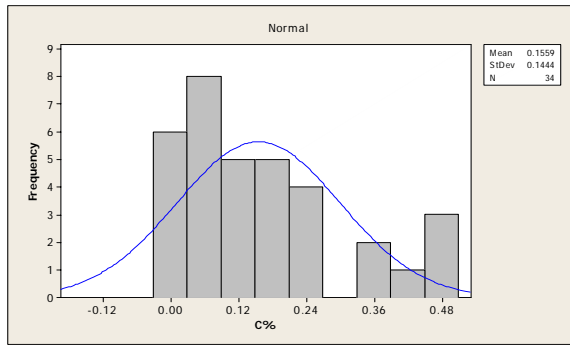
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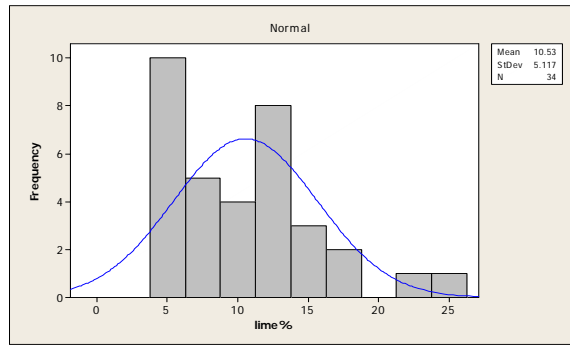
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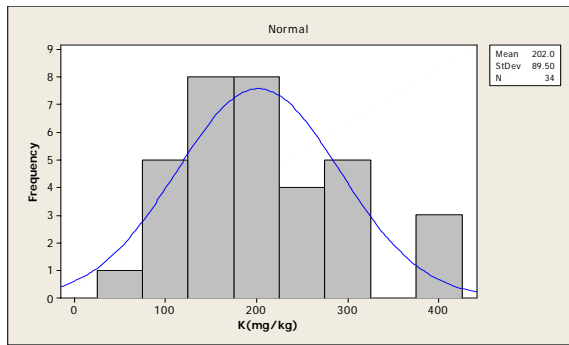




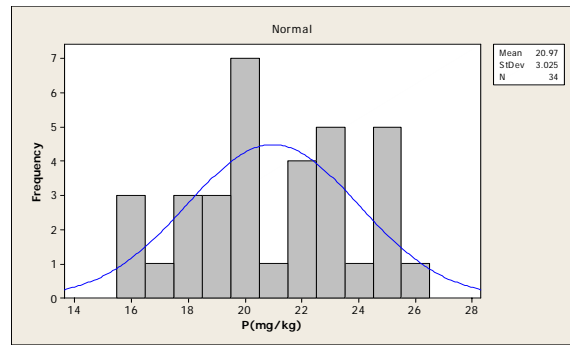
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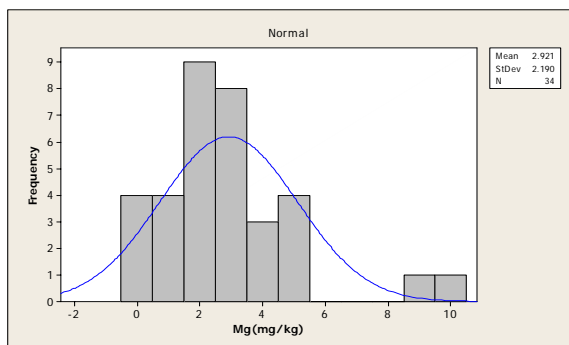
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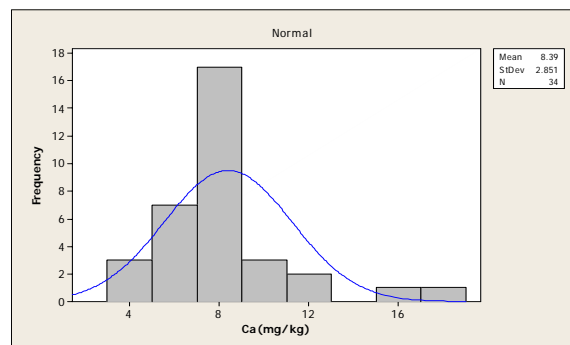
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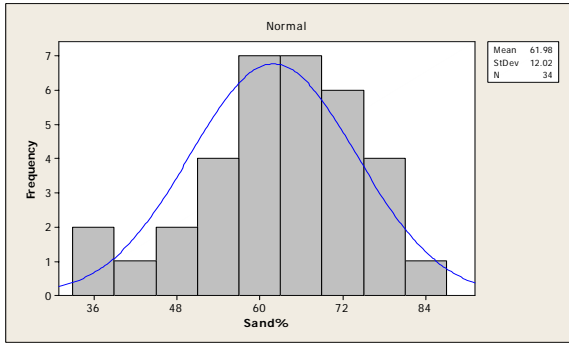
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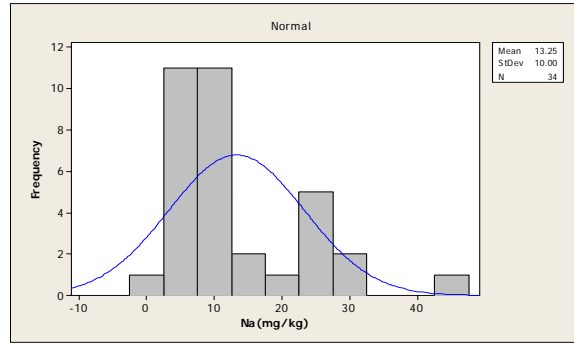
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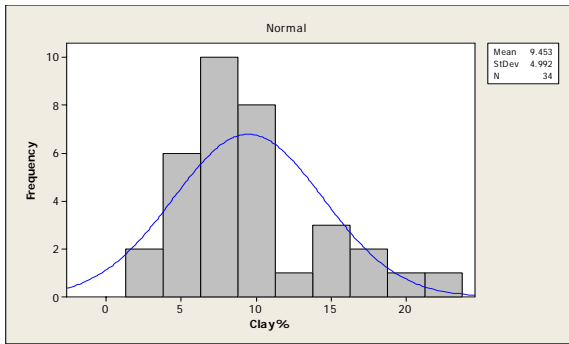
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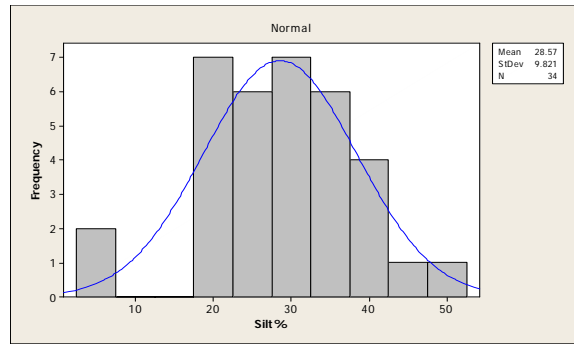
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## Investigation of ecological range and its effects on vegetative characteristics of *A. sieberi* populations in Iran

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### Abstract

With respect to wide distribution of *A. sieberi* Besser in Iran, various studies have been done on its habitats and different ecological properties have been referred as effective factors in establishment of this species. In this research, we tried to study the ecological range of *A. sieberi* and its relationship with vegetative characteristics. Therefore, climate properties including annual precipitation, number of days with precipitation, annual, minimum and maximum temperature, absolute minimum and maximum temperature; topographic property including altitude; edaphic properties including pH, EC, SP, texture, lime, gypsum, C, Na, K, Ca, Mg, N and P; and vegetative characteristics including large and small diameter of canopy, height of plant and diameter of most thickness branch were measured in 34 populations. For determination of ecological range, normal curve with histogram of frequency have been drawn for total properties. All populations divided in 3 groups by cluster analysis. Measured properties compared by analysis of variance between 3 groups. The significant properties were: average of annual, minimum and maximum temperature, absolute minimum and maximum temperature, large and small diameter of canopy and height of plant in 0.1 % probability level, altitude and C in 1 % probability level, while annual precipitation, number of days with precipitation, N, P and Na in 5 % probability level.

**Keywords:** *A. sieberi*, Ecological range, Vegetative characteristics, Ecological characteristics, Frequency histogram, Cluster analysis, Analysis of variance, Iran