

## Elimination trial of broad leaved and needle leaved species

*Mojtaba Hamzhepour, Mohammadreza Negahdarsaber*

### **Abstract :**

This experiment was carried out in Fars province , in order to identify the adaptability of different needleleaved and broadleaved species in Doorodzan area of the Fars proviens of Iran.

The experiment was laid out as a randomized complete block design with 10 treatments (10 tree species), each containing 49 seedlings in 4 replication.

The trees were planted in the plots and trained for 6 years. The survival percentage of the tree species was the basis of the evaluation of treatments. *Pinus brutia*, *Cupressus. s. var. horizontalis*, *Cupressus arizonica*, and *Pinus eldarica* were the most promising trees.

The broadleaved species , namley *Eleagnus angustifolia* , *Robinia pseudoacacia* , *Quercus brantii*, *Ailanthus glandulosa* and *Fraxinus rotundifolia* showed more than 50% survival.

## **Effect of lime and chemical fertilizer application on growth and mineral uptake in *Pinus sylvestris* seedlings**

**A. Rahmani**

### **Abstract**

This study was conducted to determine the effects of liming and fertilizing on growth and mineral uptake of different organs of young Scots pine (*Pinus sylvestris* L.), under field condition. Treatments consisted of quicklime, Ca+ Mg, Ca+Mg+NPK and Ca+Mg+NPK+ microelements. After three years, the growth rate was affected by fertilization in all treatments, although liming alone did not modify significantly the height growth compared with the control. Fertilization increased the concentrations of Ca, Mg and K and decreased Mn in organs. The accumulation of macroelements was greater in all organs when they were treated with microelements, compare with other treatments. Concentration of Fe, Na and n were not affected by fertilization. There was a greater accumulation of the less mobile elements; Ca, Mn, Fe and Na, in old needles. Where as the concentration of mobile nutrients, K and mg were greater in current growing needles.

**Key words:** Scots pine, fertilization, liming, nutrition, growth

maximum temperature of early period of growth season in 1998 was higher than relevant temperature for 1997, life phenomena of this year appeared one week earlier than 1997. However defoliation is mostly influenced by photoperiod and minimum temperature and as a result of shortening the daylight time and dropping the temperature from middle of September up to middle of October, leaf color changes and shedding of different poplar clones starts.

Furthermore time difference of the appearance of living phenomena and period of any phenomena in different poplar clones was shorter in 1998 compared to 1997.

Investigated poplar clones were grouped based on living activities periods. These clones such as *P.e. arges grandis* and *P.e. marilandica* with short growth periods are suitable for cold regions and clones such as *P.d. 69/55* and *P.e. triplo* with longer growth periods are suitable for planting in the warmer regions of our country.

**Investigation on phenology of different poplar clones in  
collection at Karaj research station during 1997 & 1998  
period**

**R.Ghassemi, A.Jalili, M.Akbarinia, A.R.Modir Rahmati**

**Abstract**

The prerequisite in planning and implementing any research project is possession of preliminary and basic data and information. Phenological information are required by researchers of various poplar trees research projects. The purpose of this study was to obtain and collect such essential information .

In this study the phenology of 30 Poplar clones at Karaj collection during 1997 and 1998 were studied. Factors such as anthesis ,foliation ,seed ripeness ,defoliation ,daily minimum and maximum temperature at the site were considered.

The results of this study may be summarized as follows:

Living activity of various poplar clones starts in the period between early Mars until late April and ends up between middle of November until late December. The time difference of few days up to few weeks exist in the appearance of various life phenomenas .Initiation date for poplar living activities at the start of growth season depends on the daily temperature .Therefore due to the fact that mean ,minimum and

The most regeneration was occurred in the north and north-west slopes under closed and semi-closed canopy because of appropriate humidity, temperature and light condition.

Among all regeneration, the rate of Horn beam was 31.7%, Oak 29.3%, maple 8.2%,

cherry 1.4% and other species (*Cornus mas*, *viburnum lantana*, *juniperus.spp*) were 29.4%.

The rate of seed regeneration was 28.7%.

The average number of sprout on every stump was six and their average height was 3.7m.

Oak and Hornbeam had the most regeneration power among existing species.

The average height of sprouts in Maple, Hornbeam, Oak and Ash trees was very much but in Cherry trees was under 1m.

**KEY WORDS:** structure, regeneration, Arasbaran, high and coppice system, forest type.

## THE STUDY OF NATURAL REGENERATION STRUCTURE IN ARASBARAN FOREST (SOTANCHI REGION)

**Farhad Amirghasemi, Khosro Saghebtalebi & Davood Dargahi**

### **Abstract:**

Arasbaran forest (Gharadagh) that located in the north of Ahar City (eastern Azarbaijan province) are very important because of ecological condition and specific fauna and flora

These non commercial forests including species such as Oak, Hornbeam, Walnut, cherry, elm and maple trees.

The understory species are :Cornus mas, Viburnum lantana, V. oppulus, Prunus.sp and in destructive area Paliurus spina-christi, Rosa.sp, crataegus.sp and Rubus.sp replace by main species.

This study was achieved in order to finding natural regeneration structure in Sotanchi experimental forest( that is one subregion of Kalibarchi watershed).

In order to fulfill this research, 36 primarily circle plots (0.1 ha) was measured. after calculation of standard deviation ,139 main plots were indicated in a systematic random method.

Also inside of every main plot, a cubic microplot (0.0004ha) was measured (nested plot).

All species with diameter at breast height (d.b.h) from zero to 7.5 cm was measured in the main plots and also site factors , landscape and deforestation effects recorded.

In every microplot, trees origin (high or coppice system) with d.b.h under 7.5cm

were indicated . also the number of sprouts was counting and their average height calculated.

This study indicated that regeneration structure in Arasbaran forest is in high and coppice system but coppice system is further.

The main forest types that detected in this region are: Quersetum , Quercu-carpinetum and carpinetum.