

INVESTIGATION OF PHYSICAL AND CHEMICAL PROPERTIES OF *STYRAX OFFICINALIS* L. PLANT SPREADING IN MEDITERRANEAN BIOME AND DETERMINATION OF ITS CULTIVATION POTENTIAL IN TERMS OF AGRICULTURAL FORESTRY

Assist. Prof. Cüneyt CESUR* , Prof.Dr. Belgin COŞGE ŞENKAL* , Assist. Prof. Hülya DOĞAN* , Assist. Prof. Tanzer ERYILMAZ* , Assoc.Prof. Hasan SERİN** , Asistant Tansu USKUTOĞLU

*Bozok Üni. Faculty of Agriculture, Department of Field Crops , Yozgat/ Türkiye

** Sütçü İmam Uni. Faculty of Forestry , Kahramanmaraş / Türkiye

Tesbi (*Styrax officinalis* L.) growing in arid, forest openings, forest layers and having close to 50% oil in their seeds is a crop. *Styrax* genus spreads with 130 species from the tropical regions of America and southeast Asia to the Mediterranean in the three different biome of the world. It is a species that grows widely in the form of shrubs in Southeastern Anatolia, Mediterranean, Aegean, Marmara and Central Black Sea regions in Türkiye.



Styrax officinalis L. in natural area



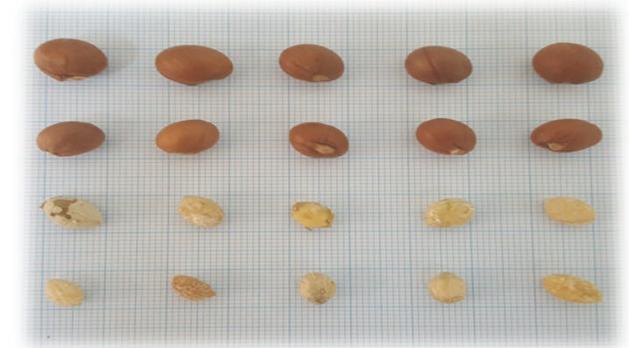
Flowers



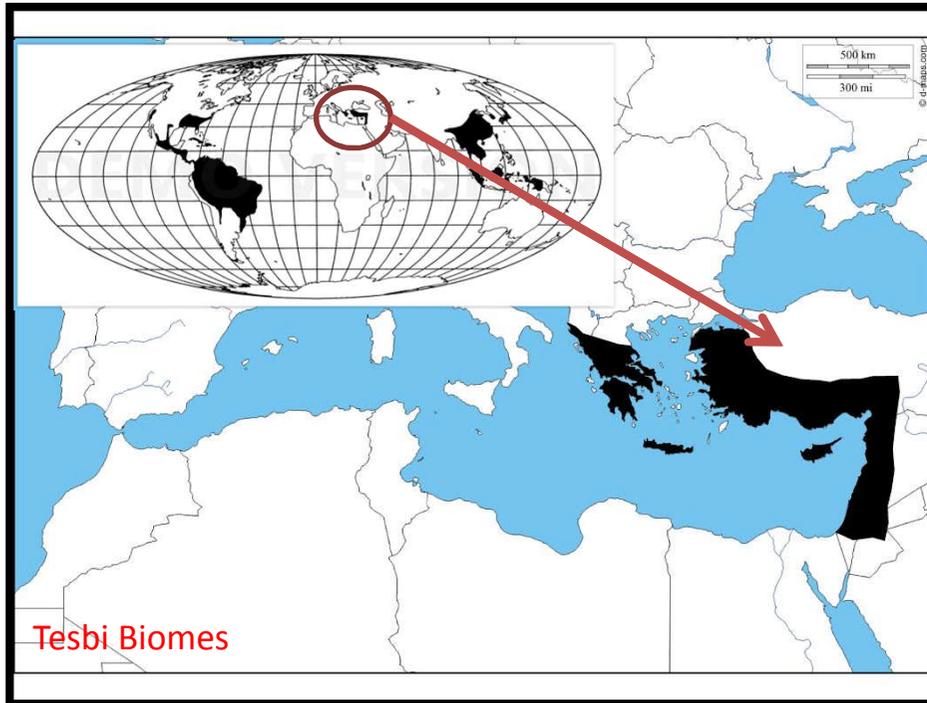
Fruits



Seed oil



Seeds



Climate change due to global warming has become a major threat to humanity. This threat poses risks to people's access to two basic needs such as food and water. It is not hard to say that the human population increasing every day increases these risks while human deaths are still due to the inadequacy of food and water resources. Another reason for the urgency of food and water issues is the decline of agricultural lands due to various savings.

The availability of new resources for the resolution of these issues is essential. Agricultural forestry is noteworthy as a concept to be evaluated in this regard. If it is thought that more than 55% of the forested areas in Turkey are found in the forest openings and corrupt forest areas, it can be understood that they can not benefit from very large areas. Many benefits can be gained by processing these broad lands in the concept of agricultural forestry. Tesbi crops are very important in terms of being a plant that can be cultivated in dryland. It can be said that the cultivation of this plant in large forest openings will benefit many areas from biodiversity and environmental rehabilitation to energy production. Vegetable oils are an important nutrient source for food, and various industrial fields are needed for oils that can not be used for food. It is possible to say that these oils have gained a strategic importance by starting to use vegetable oils as biodiesel raw materials. So much so that China is committed to taking all the vegetable oils produced by tropical countries like Indonesia and Malaysia, but it is another sign of the importance of vegetable oils that are not selling crude oil.

- ✓ The cultivation of the *Styrax officinalis* L. will provide the basis for the development of biodiversity in these areas where large forest openings.
- ✓ The plant, which can be easily grown on sloping land, will also be important in areas that are at risk for erosion and landslide, or in improvement of dam basin.
- ✓ Cultivation of Tesbi will also be an important contribution to employment, energy production, environmental rehabilitation, and global warming.
- ✓ Important benefits within the scope of agricultural forestry will be provided in this plant which can be grown in forested and inefficient places and which is not economical yet.
- ✓ The study delegations to be formed in 3 different countries will collect plant seeds from their geographical areas and determine the physical and chemical properties of these plants and determine the most suitable individuals in the biom and start work for the cultivation of these individuals.

Investigated Properties	
Plant Properties	Chemical properties
Plant height	Fatty acid composition
Seed yield	Oil quality properties
Seed characteristics (width, length, husk ratio, 100 seed weight)	Fuel properties of biodiesel



All photos are original.