The Effect of Different Sulfuric Acid Concentrations on Seed Germination of Carob (Ceratonia siliqua L.)

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Keywords: Carob, seed, sulfuric acid, sulfuric acid concentration, germination rate

ABSTRACT

The carob tree has been grown well on poor, sandy, calcareous and limestone soils. It is drought resistance, the plant is especially useful for areas where irrigation is impractical or rainfall is unreliable. It is one of the favorite trees planted in the arid and semiarid regions of the southern Mediterranean basin. Propagation of carob is a major factor to achieve carob cultivation. Therefore, the studies on modern methods of propagation and nursery management are a very critical subject. Carob can be propagated vegetatively, but vegetative propagation by cuttings has not been useful. Grafting is generally used commercially. For grafting, first of all we must obtained seedlings. Seedlings. Carob seeds are very recalcitrant. Therefore it is necessary to scarify or stratify; both applications have demonstrated faster germination. The objective of this study was to evaluate different sulfuric acid concentration on seed germination. Seeds, obtained from wild types of carob were used as the experimental material. In this research, scarified carob seeds were treated with different sulfuric acid concentrations (Control, 10, 20, 40, 60, 80 and 98%) for 30 minutes in petri dishes at 26 °C and placed in the plant growth chamber. The results of this study indicated that the lowest germination rate was 22.92% in the control treatment followed by 23.61% by soaking the seeds in 60% H₂SO₄. The highest germination rate (93.06%) was obtained with the treatment of 98% H₂SO₄ for 30 minutes.