Innovation of Nursing Afzelia for Mixed Forest in Arid Areas

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According to the sharp decrease of mixed forest and Afzelia in arid areas in northeast of Thailand, one solution was planting trees. However, only 30% of the young plants survive. This project was initiated in order to increase the rates of germination, survival and growth of Afzelia as well as to reduce cost. The first part was making the covers from cow dung in half circle shape which help reducing water evaporation, allowing water to pass through easily and retaining moisture in the soil. The second part were divided into 3 steps. The first step was stimulation of the germination process of Afzelia seed by making a wound and soaked the seeds in water at 60 ? and left to cool down to room temperature. The second step was preparation of the soil by mixing loose soil with sandy soil and rice husk ash at ratio of 1:1:1by weight. High growth rate of Afzelia in the arid area was observed and the survival rate of the young plants was 100 %. The last step was developing an absorbent and moisture retention material from water hyacinth: rice husk ash (1:1) mixed with clay. The result showed that the material could absorb water up to 33.82%, with the least dehydration rate of 93.03%, and the decompose rate of 1.85%. This developed method for nursing the Afzelia resulted in increasing the seed germination, survival rate, growth rate of Afzelia and was environmental friendly.

Awards Won: