Crotalaria pumila is an herbaceous species with wide environmental tolerance and potential for ecological restoration and agroforestry systems. Little is known about the germination requirements of the species and propagation methods are needed to further study the potential and future use of the species. Four scarification treatments (mechanical scarification and immersion in concentrated sulfuric acid for 10, 30 and 60 minutes) and control were tested under growth chamber and greenhouse conditions. Highest germination rates were obtained with acid scarification for 60 minutes under growth chamber (74.33%) and for 30 minutes under greenhouse conditions (80.00%). Mechanical scarification was also efficient in promoting germination (58.00% for growth chamber conditions and 69.67% under greenhouse conditions) but it was labor intensive. Lowest germination was observed for untreated seeds (3.00% for growth chamber conditions and 4.33% under greenhouse conditions). Our results suggest that intermediate acid-scarification times (ca. 30 minutes) under greenhouse conditions are more efficient for propagating the species because damage to the seeds caused by longer exposure to acid are avoided.