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T22-P36 - Can reproductive traits contribute to the success of ecological restoration?

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Direct sowing has been proposed as an alternative to planting seedlings because of its low cost. However, there are still few works with direct seeding that aim to select species that best respond to the technique. Therefore, we carried out a direct sowing study with native tree species of the Semideciduous Seasonal Forest in Southern Brazil (Serra do Sudeste, State of Rio Grande do Sul), aim to: i. determine the effects of reproductive attributes (mass, shape and water content of the seed) in germination; ii.to test the effectiveness of direct seeding in treatments with and without mulching, buried and non-buried seeds, and iii. advice for selection of species for ecological restoration. Seeds of 17 species were collected and tested in the laboratory and 12 of them were sowed in the field. The traits were related to germinability, mean germination time and germination speed index for the species tested in the laboratory. In direct seeding, emergence, establishment, and survival were calculated and the differences between the three treatments were compared: buried with cover, buried without cover and not buried with cover. In the laboratory, the flattened seeds presented greater germinability and a higher rate of germination, and the interaction of seed form and mass was significant for germinability. In direct seeding, buried seedlings with mulch cover presented higher germination rates, but there was no significant effect for establishment and survival. Our study suggests that species with flattened seeds should be prioritized in forest ecological restoration and that, when buried, increase direct seeding success.