

Seedling Vigor of Three Lotus Species

P.R. Beuselinck

U.S. Department of Agriculture, Agriculture Research Service, 207

Waters Hall, University of Missouri, Columbia, MO 65211

Sixty-two Lotus plant introductions were screened for their seedling vigor as measured by shoot and root dry weights at 2, 4, and 6 weeks after seeding. Eleven varieties and germplasms of L. corniculatus were included as standards for comparisons with the 27 L. corniculatus, 18 L. tenuis, and 17 L. pedunculatus introductions. Average total seedling dry weights increased from 23.9 mg at the 2 week harvest to 63.7 and 90.8 mg at the 4 and 6 week harvests, respectively. Average seedling dry weights for the entries ranged from 14.4 to 84.9 mg for shoots and 12.2 to 82.6 mg for roots when combined over all harvests. Species differences (sig.  $p \leq 0.05$ ) were observed with combined harvest average seedling dry weights of 68.3, 60.1, and 38.8 mg for L. corniculatus, L. tenuis, and L. pedunculatus. Shoot, root and total dry weights for entries were significantly and positively correlated with 100 seed weights. The best five entries include the L. corniculatus PI's 194228 (Yugoslavia) and 226796 (Netherlands), the variety Maitland (Canada), the germplasm LA synthetic (Canada), and L. tenuis PI 302921 (Spain).