B-150

Variability of the reproductive period in soybean

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Soybean germplasm classification related to photoperiod sensitivity is widely known and determines different maturity groups (GM) based on the length of the growing and reproductive period (R8). In this work we studied the variability of the length, in days, of the reproductive period (R3-R6) for GM II to VI of 48 soybean genotypes including Argentine cultivars and exotic germplasm. Two field experiments were sown in November 1st 2014 and November 6th 2015, in Marcos Juárez (33º 55 'LS, 62º 52' LO), Córdoba, Argentina. The genotypes were classified into six maturity groups, using analysis of conglomerates with euclidean distance. Within each GM the variability of the duration of R8 and R3-R6 periods was analyzed. For R8, no significant differences were observed within each group, whereas R3-R6 period showed significant differences in three of the six groups of cultivars (Tukey ≤ 0.05). The maximum difference between genotypes, between the longest to shortest R3-R6 period length, was 35 days, for GM IV. Considering GM IV is well adapted to local agroecological conditions and planting dates, it is possible that the full potential of photoperiod response and variability for this trait is only expressed when different GMs are grown in appropriate latitudes and planting dates.