# **Studies on the Effect of Plant Density on Maize Growth using the Richards Function. (A08-berzsenyi033600-Poster)**

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#### Abstract:

The growth analysis program developed on the basis of the Richards function by Nath and Moore (1992) was used between 1997 and 1999 to study the effect of plant density (2, 4, 6, 8, 10 and 12 plants/m2) on the dynamics of growth and growth parameters in different maize hybrids. Plant samples were taken every 14 days from the four-leaf stage to physiological maturity. As plant density was increased the mean value of CGR  $(g/m^2/day)$  rose considerably from 9.0 at low plant density to 15.2 and 17.8 at medium and high plant density. The maximum LAI was measured at the R1 stage, being 6.76, 4.67 and 2.17 at high, medium and low plant density. The NAR dropped considerably due to an increase in plant density; the mean value was 8.48, 6.88 and 5.85 g/m2/day, respectively, at low, medium and high plant density. The RGR values of the ear and the grain yield were almost double that of the whole plant. In the developmental phases V6-V12 and V12-R1 the rapid increase in LAI and CGR was the most important. In phases R1-R6, NAR and dry matter allocation gradually increased in importance in determining the grain yield. The growth parameters were used for the multivariable separation of plant densities.

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