Effect of Sowing Date and N fertilisation on the Yield and Yield Stability of Maize Hybrids between 1991 and 2000. (A08-berzsenyi022113-Oral)

Authors:

- Z.Berzsenyi* - *Agricultural Research Institute, Martonvasar, HU*
- D.Q.Lap - *Agricultural Research Institute, Martonvasar, HU*

Abstract:

In the three-factorial experiment N fertilisation treatments (0, 60, 120 and 180 kg/ha) were the main plots, while the subplots consisted of the four sowing dates: early (Apr.14), optimum (Apr.24), late (May 5) and very late (May 16). The sub-subplots were five maize hybrids with different vegetation periods. The experimental data were evaluated with variance analysis and with the variance and regression methods of stability analysis. The greatest maize yields were obtained after sowing at early and optimum dates (8.61 and 8.56 t/ha), while there was a significant reduction after late and very late sowing (8.12 and 7.40 t/ha). In dry years, however, sowing very late led to yield losses of 30-40 %. The yield was lowest in the treatment without N fertilisation (6.48 t/ha), rising at N rates of 60 and 120 kg/ha (8.50 and 8.79 t/ha) and then declining at the 240 kg/ha N rate (8.38 t/ha). Sowing date had different effects on the dynamics and mean values of the growth indices (CGR, LAI, NAR) in the vegetative and reproductive stages of growth. Both the variance and regression methods of stability analysis contributed to the characterisation of the experimental treatments in various years.

Corresponding Author Information:

Zoltan Berzsenyi
Agricultural Research Institute
Martonvasar HU
Agricultural Research Institute of the HAS
Martonvasar, HU H-2462
Hungary

phone: 36-22-569-500
fax: 36-22-569-556
e-mail: berzseny@mail.mgki.hu

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