ITEMS FROM ARGENTINA

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Application of exogenous hormones in wheat.

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This study measured the effect of foliar applications (exogenous) of hormones and/or hormonal cofactors on yield and its components in rain-fed, cultivated wheat. Univariate statistical analysis (ANOVA) showed no significant differences between treatments for any of the characters analyzed. Treatment with cytokinins, gibberellins, and indole butyric acid (5) differed from the other treatments, including the control test (1; Fig. 1).

The antagonism between cytokinins and ABA in maintaining open, or closed, stomata in order to facilitate gas exchange was apparently attenuated with the application of exogenous cytokinins, gibberellic, and indole butyric acids. However, the higher biomass production achieved and number of seed did not make a difference in terms of yield. The severe water stress before and during grain filling generated a reduced movement of resources and diminishing dry matter partitioning (lower harvest index and seed weight).

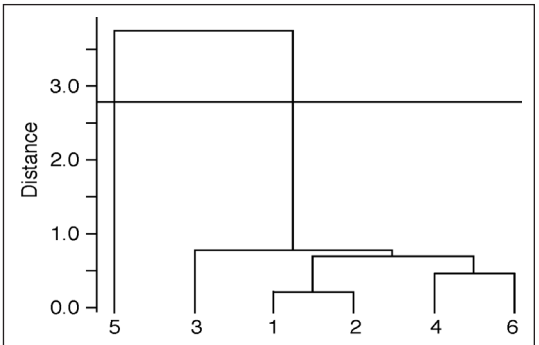

Fig. 1. Dendrogram of treatments; 1, control; 2, antioxidant; 3, micronutrients (B, Mo, and Co); 4, micronutrients (B, Cu, Mo, and Zn); 5, cytokinins, gibberellins, and indole butyric acid; 6, cytokinins.

Maintaining grain yield potential with higher stubble production in rain-fed wheat.

G.A. Piacenza and R.H. Maich.

This study compared stubble and grain production of commercial and experimental lines of bread wheat cultivated under rain-fed conditions. The differents genotypes were grouped according to phenology. Three trials were performed using completely randomized experimental designs. The material was sown under notill practices at three sowing dates in May 2008. At flowering, genotypes with longer biological cycles showed a water deficit of 84%, intermediate types were at 74%, and shorter types 75%. Grain yield fluctuated between 1.6 ton/ha and 2.9 ton/ha. Both commercial and experimental lines were situated in the top of the ranking for grain production. However, taking into account stubble production, the experimental lines performed better than the commercial wheats. Plant breeding conducted under rain-fed conditions in the central, semiarid region of Argentina generated new genotypes with grain yield similar to that of most cultivars, but with a stubble production around one to two tons more. Taking into account the limited water resources of the region and in order to reduce evaporation and increase efective precipitation, these new genotypes make a more sustainable system than the wheat–soybean rotation.