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RESPONSE OF WHEAT CROP TO FOLIAR APPLICATION OF GROWTH REGULATOR PACLOBUTRAZOL

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SUMMARY

The presented study sought to determine the effects of the growth regulator paclobutrazol (0, 50, 100, and 150 mg L⁻¹) on two wheat (*Triticum aestivum* L.) cultivars Ibaa-99 and Bhoth-22, carried out at the University of Basrah, Iraq. The experiment layout had a randomized complete block design with two factors and three replications. The results showed the cultivar Ibaa-99 was superior in plant height and days from 50% flowering to full maturity, with average values of 88.08 cm and 40.88 day, respectively. The cultivar Bhoth-22 was superior in chlorophyll content, number of tillers, days of planting up to 50% flowering, and flag leaf area. Their averages were 460 mg m⁻², 576.33 tiller m⁻², 103.85 days, and 39.76 cm², respectively. Foliar coefficients of the growth regulator paclobutrazol showed significant differences. The highest concentration of Paclobutrazol (150 mg L⁻¹) revealed the topmost average number of days from 50% flowering to full maturity (45.65 day), while the Paclobutrazol at 100 mg L⁻¹ had the maximum average chlorophyll content, flag leaf area, and tillers per plant in wheat.

Keywords: Wheat (*T. aestivum* L.), cultivars, paclobutrazol, earliness and yield traits, chlorophyll content

Key findings: The wheat (*T. aestivum* L.) cultivar Bhoth-22 proved leading in chlorophyll content, tillers per plant, days to 50% flowering, and flag leaf area. For the traits plant height and days from 50% flowering to full maturity, the cultivar Ibaa-99 was superior to the cultivar Bhoth-22. Paclobutrazol (100 mg L⁻¹) foliar application was superior in most characteristics under study. Interaction of cultivar Bhoth-22 with Paclobutrazol (100 mg L⁻¹) gave the highest averages for leaf chlorophyll content, flag leaf area, and tillers per square meter.

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