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Comparison of the Performance of Autumn and Spring Sowing of Chickpeas in a Temperate Region

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Abstract: The effects of autumn and spring sowing on chickpea yield were investigated by examining yield components in a 2-year (2000-2001 and 2001-2002 growing seasons) field experiment in a temperate region, in north-west Turkey. Twenty-one chickpea genotypes (2 registered varieties of winter type for the Mediterranean region and 19 breeding lines) were evaluated in 2 sowing seasons (autumn and spring). Autumn-sown crops were subjected to -2.1 °C and snow cover twice (2 and 4 days) in the first year and -7.6 °C and snow cover 3 times (8, 14 and 6 days) in the second year. All genotypes were resistant to cold at the seedling stage, but 2 lines (FLIP 98-33C and FLIP 98-86C) were affected by a late cold spell at the late vegetative stage and their yields were reduced in the 2000-2001 season. Environmental conditions were favourable for Ascochyta blight infestation, but there was no incidence of blight in either year or at any sowing time. The longer growing period of autumn-sown chickpeas affected positively characters contributing to yield such as plant height, branches per plant, pods per plant, pod bearing shoot length and 100-seed weight, which in turn contributed to increased seed yield. Averaged over the 2 years, the autumn-sown crop produced 102% (1642 kg ha^{-1}) more seed yield than the spring-sown crop. Stepwise regression of seed yield with characters contributing to yield were not consistent and estimated less than half of the whole effects. However, days to maturity, 100 seed weight and days to flowering were important for autumn sowing and days to flowering, 100-seed weight, plant height and days to maturity were important for the spring-sown crops.

Key Words: Cicer arietinum, autumn sowing, spring sowing, temperate region

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