

# Effect of Drought Stress at Supraoptimal Temperature on Polyamine Concentrations in Transgenic Soybean with Increased Proline Levels

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The effect of drought stress at supraoptimal temperature on free proline and polyamine levels was compared in wild type and transgenic soybean (*Glycine max* cv. Ibis) plants having increased proline levels. Since glutamate and arginine are precursors of both proline and polyamines, it was assumed that the genetic manipulation of proline levels would also affect the polyamine levels. The proline and spermine concentrations increased, while the putrescine concentration generally decreased or did not change after the treatments in both genotypes. Following drought higher proline and lower spermine levels were detected in the transgenic plants compared to the wild type ones, which could be explained by the increased use of their common precursors for proline biosynthesis in the transgenic plants.

**Key words:** Polyamine, Proline, Soybean