

# Effect of Pre and Post Emergence Herbicide Molecules on Weed Control Efficiency and their Phytotoxicity on Maize (*Zea mays L.*)

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## ABSTRACT

A field experiment was conducted at the Regional Agricultural Research Station, Lam, Andhra Pradesh during *rabi* season of 2013 and 2014 to evaluate the efficacy of pre emergence herbicides atrazine, pendimethalin and post-emergence herbicides tembotrione and topramezone combinations on weed control efficiency and their phytotoxicity on maize. Lowest weed dry weight and high weed control efficiency was recorded in application of atrazine@ 1.25 kg a.i ha<sup>-1</sup> as pre-emergence followed by topramezone @ 25 g a.i ha<sup>-1</sup> at 20 DAS as post-emergence (T<sub>6</sub>), pendimethalin @ 0.75 kg a.i ha<sup>-1</sup> as pre-emergence followed by topramezone @ 25 g a.i ha<sup>-1</sup> at 20 DAS as post-emergence (T<sub>8</sub>), atrazine@ 1.25 kg a.i ha<sup>-1</sup> as pre-emergence followed by tembotrione@120 g a.i ha<sup>-1</sup> at 20 DAS as post-emergence (T<sub>7</sub>) and pendimethalin @ 0.75 kg a.i ha<sup>-1</sup> as pre-emergence followed by tembotrione@120 g a.i ha<sup>-1</sup> at 20 DAS as post-emergence (T<sub>9</sub>) where sequential application of herbicides at all stages of crop growth. The herbicides used in the present investigation didn't cause any phytotoxicity symptoms during both the years of investigation.

**Key words:** *Atrazine, Maize, pendimethalin, Tembotrione, Topramezone, Weed management*