



RESEARCH PAPER

Studies on finding agroclimatic normals for getting maximum yield in maize hybrids under rainfed condition

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Abstract : Field experiment was conducted from 2009 - 16 at Agricultural Research Station, Kovilpatti to find the optimum weather requirement for getting higher growth, development and grain yield of maize hybrid under rainfed condition. Experiments were laid out in split-plot design with three replications. The treatment combinations comprised of four dates of sowing viz., 39th, 40th, 41st and 42nd standard meteorological weeks in main plot with three different maize hybrid viz., 900(M) GOLD, NK6240 and Prabal in sub plot. Pooled analysis revealed that maize hybrid sown during 39th standard meteorological week recorded higher grain yield (3548 kg ha⁻¹) followed by 40th standard meteorological week sowing (3307 kg ha⁻¹). The lower grain yield was obtained with when the maize crop was sown during 42nd standard meteorological week (2738 kg ha⁻¹). Among different varieties, NK 6240 recorded the higher grain yield (3619 kg ha⁻¹). The correlation analysis revealed that, minimum temperature at vegetative, silking, milking, dough and maturity stages affect the grain yield negatively. Rainfall at vegetative stage affected the grain yield positively. Evaporation at vegetative, milking, dough and maturity phases negatively influenced the grain yield. The optimum weather parameters viz., minimum temperature at milking phase is 17.5 - 19.5 °C, rainfall at knee high stage is between 150 - 200 mm, the relative humidity at tasseling stage is between 85 - 90 % and the evaporation at milking stage is between 2.5 and 3.5 mm/day were required to get higher grain yield of maize under rainfed condition.

Key Words : Agroclimatic normal, Growth, Maize hybrids, Rainfed, Yield

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