

Review Article

Effects of planting time on growth, development and productivity of maize (*Zea mays* L.)

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ABSTRACT

Planting date plays important role in the growth, development and yield of maize. Optimum planting date has becomes a prime importance for higher crop production. The plant establishment as well as pest and disease incidence are affected by planting dates. Crop varieties respond differently to planting dates. Early or late planting dates on maize causes an array of morpho-anatomical, physiological and biochemical changes in plants, which affect plant growth and development and such changes may lead to a drastic reduction in yield. Maize growth and development involves numerous biochemical reactions which are sensitive to variance in weather parameters as affected by planting dates. Delayed planting dates affect traits namely anthesis silking interval, photosynthesis, physiological maturity and dry matter production due to reduction in cumulative interception of photosynthetically active radiation (PAR). Late planting dates cause higher non-structural carbohydrate concentration in stems at mid-grain filling stages due to low temperature exposure of crop limiting kernel growth and photosynthesis. The adverse effects of delayed planting dates can be mitigated by forecasting optimum planting dates through crop modeling experiments. This article summarizes various effects of planting dates on maize growth, development and yield parameters. This information may be useful for maize growers and researchers.

Keywords: Maize (*Zea mays* L.), planting date, grain yield

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