

Effects of Hypoxic Duration at Different Growth Stages on Yield Potential of Waxy Corn (*Zea mays* L.)

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Abstract : Hypoxia has negative effects on growth and crop yield, its severity is so varied depending on crop growth stages, duration of hypoxia and crop species. The objective was to evaluate the sensitive growth stage and the duration of hypoxia negatively affecting growth and yield of waxy corn. Pot experiment was conducted using a split plot in randomized complete block with 3 growth stages: V3 (3-4 true leaves), V7 (7-8 true leaves), and R1 (silking stage), and three hypoxic durations: 6, 9, and 12 days, in an open-ended outdoor greenhouse during January to March 2013. The results revealed that different growth stages had significantly ($p < 0.5$) different responses to hypoxia, seeing that the sensitive growth stage affecting plant height, yield and yield components was mostly detected in V7 growth stage whereas leaf greenness and days to silking were sensitive to hypoxia at R1 growth stage. Different hypoxic durations significantly affected the yield and yield components, hypoxic duration of twelve days showed the most negative effect greater than the others. In this present study, it can be concluded that waxy corn plants were waterlogged at V7 growth stage for twelve days had the most negative effect on yield and yield components.

Keywords : hypoxia duration, waxy corn, growth stage, *Zea mays* L.

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