

Effects of Planting Density on the Growth and Yield of Maize (*Zea mays* L.)¹

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Abstract

This experiment was conducted to study the effects of planting density on growth and yield of the maize variety 'Ming-Fung No. 3' in east Taiwan. Five different plant densities (75 × 25, 75 × 15, 60 × 15, 45 × 15, 30 × 15 cm or 53,333, 88,888, 111,111, 148,148, 222,222 plants/ per ha, respectively) were evaluated. The gain yields were 4,784, 4,861, 3,942, 3,702 and 2,473 kg/ha in sequence. The results show that the planting density at 75 × 15cm (88,888 plants/ha) and 75 × 25cm (53,333 plants/ha) resulted in higher yield for the maize variety 'Ming-Fung No. 3'. On the contrary, the yield declined significantly in the spacing 30 × 15cm (222,222 plants/ha) treatment. The high-density planting also resulted in poor plant growth, severe northern leaf blight disease, and abnormal corn ears.

Key words: 'Ming-Fung No. 3', row spacing, narrow-row, high-density.

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