

Effect of nitrogen levels and its split application on physiological attributes of Indian mustard (*Brassica juncea* L.) in arid western Rajasthan

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SUMMARY

A field experiment was conducted during winter season of 2002-03 and 2003-04 to find out the effect of nitrogen levels and its split application on physiological attributes of Indian mustard [*Brassica juncea* (L.) Czernj. & Cosson]. Application of increasing levels of nitrogen from 40 to 100 kg ha⁻¹ significantly enhanced crop growth rate between sowing to 45 DAS, 45-90 DAS and 90 DAS to harvest, relative crop growth rate of mustard between 45-90 DAS and 90 DAS to harvest, net assimilation rate between 45 and 90 DAS and 90 DAS to harvest, leaf area index at 45, 90 DAS and at harvest and leaf area duration between 45-90 DAS and 90 DAS to harvest of Indian mustard. Further, application of nitrogen 1/3 as basal + 1/3 at Ist irrigation + 1/3 at IInd irrigation being statistically at par with 1/2 at basal + 1/4 at Ist irrigation + 1/4 at IInd irrigation brought a substantial improvement in CGR between 45-90 DAS and between 90 DAS to harvest, RGR between 90 DAS to harvest, leaf area index at harvest and leaf area duration between 90 DAS to harvest of mustard as compared to two equal splits viz., 1/2 at basal + 1/2 at Ist irrigation, DAP basal + 1/2 of rest at Ist irrigation + 1/2 of rest at IInd irrigation and 100 per cent basal. However, significantly increase in crop growth rate of mustard between sowing to 45 DAS and leaf area index at 45 DAS was recorded due to nitrogen application as full basal over different split applications in mustard.

Key Words : Indian mustard, Nitrogen, Split application, Physiological attributes

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