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Green manure crops of sunnhemp (*Crotalaria juncea* Linn.), dhaincha [*Sesbania cannabina* (Retz.) Pers.] and *Ipomoea carnea* Jacq. were fitted in rice-wheat rotation on irrigated land in Doon Valley to minimize the N use and maximize production. Only sunnhemp and dhaincha gave significantly higher yield of grain and straw over the control in the first (rice) and second (wheat) crops. Though *Ipomoea* gave higher yield than the control, the increase was only significant in the second crop of wheat. In addition to green manures, the N levels added to rice (0, 30, 60 and 90 kg/ha) and wheat (0 and 50 kg/ha) resulted in significant differences in yield of both the crops without giving any interaction effect with green manures. The prediction equation showed that 74.5, 49.9 and 25.3 kg/ha N could be saved by green-manuring with sunnhemp, dhaincha and *Ipomoea*, respectively.