

ronweed (*Vernonia galamensis*) is a promising new crop for industrial oil but information on its response to fertiliser is scanty. A field experiment was conducted at the University of Nairobi Field Station farm during 2 seasons (January to May 1998, season 1 and March to August 1998, season 2) to determine the effects of nitrogen (N) and phosphorus (P) fertiliser rates on growth, photosynthetically active radiation (PAR) interception and seed yield of 2 *Vernonia galamensis* cultivars (*ethiopica* and *gibbosa*). N was applied at 0, 75 and 150 kg N/ha, and P at 0, 45 and 90 kg P₂O₅/ha. The experiment was a 2 × 3 × 3 factorial laid out in a randomized complete block design with 3 replications. N and P application significantly increased total dry matter (TDM), photosynthetically active radiation (PAR) interception and leaf area index (LAI) of both varieties in late vegetative and reproductive stages. *Gibbosa* had consistently higher TDM, LAI, PAR and was taller compared to *ethiopica* throughout the growing season. Average seed yield of *gibbosa* was 2.3 times higher than that of *ethiopica* in both experiments. The highest TDM, LAI and seed yields were obtained at the highest N and P levels. *Gibbosa* had a significantly higher number of capsules/plant but a lower harvest index (HI) compared to *ethiopica*.