

# Performance of Garden Pea (*Pisum sativum* var *hortense* L.) Varieties under Conventional and Organic Nutrient Sources

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**Abstract**—An experiment was conducted during 2014-15 and 2015-16 at the Instructional Farm of Uttar Banga Krishi Viswavidyalaya, Pundibari, Cooch Behar to study the performance of garden pea (*Pisum sativum* var *hortense* L.) varieties under conventional and organic nutrient sources. The experiment was laid out in Factorial randomized block design with 3 three replications. In this experiment two growing system (conventional and organic system) and seven garden pea varieties (namely, KSP-110, Arkel, super Gold -10, PSM-3, Azad P-1, Monsoon-10 and Kohinoor-10) were taken treatment. Irrespective of treatments seeds were inoculated with *Rhizobium leguminosarum* (20gm/kg of seed). In the conventional system, recommended dose of fertilizer of N: P<sub>2</sub>O<sub>5</sub>:K<sub>2</sub>O (30:50:50 kg/ha) and FYM (15t/ha) was applied as nutrient source whereas, in organic system the nutrient source was vermicompost @ 2 t/ha + Rock phosphate @ 106 kg/ha + Wood ash @ 1.17 t/ha + FYM (15t/ha). Experimental findings revealed that higher yield was recorded in conventional sources of nutrients as compared to organic sources of nutrients. However, higher magnitude of quality parameters viz, protein %, beta carotene and ascorbic acid content was recorded in organic sources of nutrients. Under conventional sources of nutrients, KSP-110 recorded significantly higher yield of 13.03 t/ha followed by Kohinoor-10 (12.03 t/ha) and Monsoon-10 (10.15 t/ha). In organic sources of nutrients, the higher yield was recorded in Kohinoor-10 (11.48 t/ha) which was also statistically at par with KSP-110 (11.27 t/ha). Considering the fresh pod yield and benefit: cost ratio, the garden pea variety KSP-110 may be selected for growing under conventional nutrient sources whereas, Kohinoor -10 may be selected for growing with organic sources of nutrients under the terai zone of West Bengal.

**Keyword:** Conventional, garden pea, organic, performance, varieties, nutrient sources.