



Varietal Assessment of Garden Pea in Tirap district of Arunachal Pradesh

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INTRODUCTION

The vegetable pea belongs to family- leguminaceae which derived from central Asia. Its short durational and cool season's crop, grow mainly winter season. The average temperature 13 °C to 18°C is suitable for its growth and development. Its productivity has increased from 4.8 mT to 10.1 mT in last in last three decades; by continuous efforts of scientists and extension workers. It's a quick growing herb having good amount of protein, amino acids, calcium, iron, phosphorus etc. Being a leguminous crop, its fix atmospheric nitrogen @ 50-60 kg/ha and also cover the soil thus protects soil from erosion.

Due to high caloric crop (richness in protein and phosphorus), its demand is high in market. So the supply can be increased only through the increasing of production and productivity by choosing right kind of variety for a particular agro-climatic and agro-ecologic centre. The variety of a pea at a particular locality also varies with physical, physiological and morphological structure which directly influences the yield and its attributing character.

Pea is a popular crop in Tirap district of Arunachal Pradesh. Here only vegetable pea cultivated due to rain started during March- April months thus harvesting cannot possible.

The varieties grown in the district; are less productive, traditional and incident of pest & disease are also too high. After observing these facts and finding all feedback from farmers as well as our station trial too, during the year 2021; the Krishi Vigyan Kendra Tirap- Deomali, Arunachal Pradesh has decided to conduct On Farm Trials in 2021-22 (Rabi season). We took 3 varieties: VLmatar-15, VL matar- 13 and GS-10.

We conducted On Farm Trial (OFT) on three (03) locations/villages- Deomali, Noitong and Khela basti at farmer’s fields. The total no of trials were 05 and area: 0.10 ha. The sowing time of the trial was first week of November, 2021. Before conducting the OFT, farmers

were trained by training programme on Scientific cultivation of vegetable pea. The seeds were sown in line @30 cm x 5 cm. All the package of practices were followed accordingly during the OFT.

Table:1. Result of on Farm Trial on Pea

Parameters	Varieties		
	VL matar-15	VL matar-13	GS-10
Plant ht (cm)	26	28	32
Days for 50 % flowering	41	34	40
No of pods/plant	6	7	8
Seed nos./pod	6	8	9
Infestation of pest and diseases	Less	medium	medium
Yield (q/ha)	41	46	52
Gross cost (Rs/ha)	48,430	47,321	49,200
Gross return (Rs/ha)	82,000	92,000	1,04,000
Net return (Rs/ha)	33,570	44,679	54,800
B.C Ratio	1.69 : 1	1.94 : 1	2.11 : 1

The observation showed that variety- GS-10 performed maximum plant height (cm) 32, followed by VL matar: 13 (28) & VL matar-15: 26 respectively. In concern of days required for 50% flowering; VL matar-13 took minimum days 34, followed by GS-10: 40 & VL matar-15: 41 respectively.

The maximum no pods /plant also performed by GS-10 (8), followed by VL matar-13 (7) & VL matar-15 (6) respectively. And the no of seeds/pods also showed the same pattern- GS-10 (9), followed by VL matar-13 (8) & VL matar-15 (6) respectively.

The maximum yield/ q ha of green pods also reported by the GS-10 (52), followed by VL matar-13 (46) & VL matar-15 (41) respectively. But in concern of Incidence of pest & disease; the VL matar-15 reported less incidence followed by VL matar-13 (medium) and GS-10 (medium) respectively.

During economic point of evaluation it has reported that the gross cost of cultivation (Rupees/ha); the VL matar-13 reported minimum (Rs. 47321/ha), followed by VL

matar-15 (Rs.48430) and GS 10 reported minimum (Rs. 49,200) respectively. Though these data are statistically at par. But in term of gross return (Rs/ha); the GS-10 reported maximum (1, 04,000), followed by VL matar-13 (92,000) & the VL matar-15 reported minimum (82,000).

In term of Net economic return in Rupees /ha; the similar pattern reported. The GS-10 reported maximum (54,800), followed by VL matar-13 (46,679) & the VL matar-15 reported minimum (33,570) respectively.

Similarly, the maximum benefit cost ratio reported with GS -10 (2.11:1) followed by VL matar -13 (1.94:1). And the minimum reported with VL matar-15 (1.69:1).

So, all the above parameter’s result showing that the variety: VL matar-13 found one week earlier over VL matar-15 and GS-10. But in terms of yield and economics; the variety: GS -10 found best in aspect of maximum yield as well as economical parameters.



Variety- GS-10 (above 3 photos)



VL matar-13



VL matar-15