

Response of pea (*Pisum sativum*) to irrigation

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Received: January 1994

Pea (*Pisum sativum* L. sensu lato) is one of the most important vegetable crops grown widely in India. It is not only rich in nutrients but being a legume crop also improves soil fertility. Generally, in pea 1 or 2 irrigations are recommended (HAU, Hisar, 1992) and even it could be raised successfully under rainfed conditions (Muthuswami *et al.*, 1980). But in south-west zone of Haryana, farmers use more frequent irrigations to harvest a good crop of pea. The present investigation was therefore conducted to find out

the optimum of irrigations to get highest pod yield in 'PH 1' pea.

A field experiment was carried out during the winter season (*rabi*) of 1990 on loamy-sand soil at Bawal. The treatments consisted of 7 irrigation levels: T₁, no irrigation (conserved moisture); T₂, 1 irrigation as pre-sowing; T₃, 2 irrigations, 1 each at pre-sowing and at flowering; T₄, 2 irrigations, 1 each at pre-sowing and fruiting; T₅, 3 irrigations, 1 each at pre-sowing, flowering and 15 days after fruiting; T₇, 4 irrigations, 1

Table 1. Effect of different irrigation schedules on plant growth and pod yield in pea

Treatment	Plant height (cm)	Pods/plant (g)	Pod yield (q/ha)	Gross weight (q/ha)
T ₁	23.8	57.7	6.1	24.5
T ₂	31.7	106.0	6.1	30.4
T ₃	38.5	155.3	12.6	47.4
T ₄	34.5	245.0	17.4	59.0
T ₅	31.1	235.3	16.9	54.5
T ₆	33.5	249.0	18.5	64.3
T ₇	35.7	396.7	31.3	77.1
CD (P = 0.05)	NS	51.4	9.9	10.4

Details of treatments are given in text

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each at pre-sowing, flowering, fruiting and 20 days after fruiting. The crop was sown on 5 October 1990. Pre-sowing irrigation was given on 29 September 1990. One common irrigation was given 3 days after sowing due to low moisture in the soil. The experiment was laid out in randomized block design with 3 replicates. The sowing was done by *kera* method in rows at 30 cm spacing. The thinning was done after 7 days of germination, maintaining 5 cm spacing between plants.

Number of pods, pod yield and gross weight were significantly influenced by irrigation, but plant height was not influenced by irrigation. The number of pods, pod yield and gross weight, in general, increased with an increase number of irrigation. Up to 3 irrigations pod yield was

not influenced significantly but gross weight was significantly affected. The highest pod yield (31.3 q/ha) and gross weight (77.1 q/ha) were recorded when 4 irrigations were given, thus showing the scope for further response to more irrigations. The results contradict reports of HAU, Hisar (1992), which could be due to differences in soil and agro-climatic conditions.

REFERENCES

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Indian J. Agron. 40 (1) : 140–142 (March 1995)

Effect of organic manures and *subabul* (*Leucaena leucocephala*) leaf mulching under varying levels of fertility on growth and yield of potato (*Solanum tuberosum*) and weed biomass

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Received: October 1993

Potato (*Solanum tuberosum* L.) crop produces abundant food in a short spell and requires high amount of plant nutrients for its rapid growth. But as it increases the cost of cultivation, formulation on low-cost nutrients management practices based on local

resources needs due attention. Use of farm-yard manure, rice (*Oryza sativa* L.) husk, oilcakes in manuring is traditionally followed by farmers. Benefits of green-manuring with prickly sesban or *dhaincha* *Sesbania cannabina* Retz., sunnhemp