Indian J. Hill Farmg. 11(1 & 2) : 116 — 118 1998

EFFECT OF DIFFERENT DATES OF PLANTING ON YIELD OF POTATO *(SOLANUM TUBEROSUM L.)* VARIETIES

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Potato is an important vegetable crop of Assam with a number of recommended varieties. The optimum planting season of this crop spreads over the period October to November. But there are some varieties in which cultivation can be extended up to December. Since the time of planting has great influence on crop yield, the present investigation was undertaken to find out the time of planting of two popular potato varieties viz. 'Kufri Jyoti' and 'Kufri Megha' for getting maxium yield.

A field experiment was conducted during *rabi* season of 1997-98 at the demonstration farm of Krishi Vigyan Kendra, Khumtai, Assam. The soil of the experimental plot was sandy loam with pH 5.1, high in organic carbon, low in available nitrogen and available phosphorous and medium in available potassium content. Two potato varieties viz. 'Kufri Jyoti' and Kufri Megha' were tested under five different dates of planting viz., 15th October, 30th October, 15th November, 30th November and 15th December during 1997-98. The experiment was carried out in split plot design with four replications keeping two varieties in the main plots and five dates of planting in sub plots.

The crop was provided with recommended doses of manure and fertilizers. Medium sized tubers were planted at 50 cm inter and 15 cm. inter row spacing. The crop was grown under irrigated condition with recommended plant protection measures. The crop was harvested at 100 days after planting in respect of dates of planting.

Table 1. Mean yield of potato (t/ha) as affected by varities and different dates of planting

Treatments	Yield
Varieties	
Kufri Jyoti	10.00
Kufri Megha	12.59
CD (P = 0.05)	0.41
Rates of Planting	
15th October	10.56
30th October	13.14
15th November	13.59
30th November	12.94
15th December	8.68
CD (P = o.05)	o.47

Results (Table 1) revealed that the potato variety 'Kufri Megha' gave significantly higher yield than 'Kufri Jyoti'. This might be due to vigorous vegetative growth, superior yield attributes and higher yield potentiality of 'Kufri Megha' over 'Kufri Jyoti' under Assam condition.

Among the different dates of planting, maximum yield was obtained when crop was planted on 15th November, which was significantly higher than all other dates of planting except planting on 30th October. The findings also revealed that the yield loss increased with delay in planting and 15th December planting gave the lowest yield.This may be attributed to the fact that the crop planted on 30th October and 15th November received favourable range of maximum and minimum temperature and conductive photo period for growth and development of plant. On the other hand, crop planted beyond 15th November i.e. on 30th November & 15th December were subjected to the much lower temperature range in early period and also very short photo period. This resulted in less manufacture of photesyathates and its translocation to tubers which was mainly responsible for lower yield. Lower yield might also he due to rise in temparature from February onwards which resulted in higher respiration rate with a simultaneous decrease in the flow of substrate to the growing tubers. Similar results were also observed by Sharma and Verma (1987) and Singh and Kashyap (1991). Again, the crop planted on 15th October also produced significantly lower yield than the crop planted on 30th October and 15th November. This might be due to higher temperature and higher rainfall in the early part of October which had a detrimental effect on gerimination and early vegetative growth of the crop.

Table 2 : Effect of interaction (varieties and dates of planting) on yield (t/ha)

Dates of planting	Kufri Jyoti	Kufri Megha
15th October	10.50	11.75
30th October	12.18	14.10
15th November	12.02	14.55
30th November	11.72	14.15
15th Decembe	8.35	9.0

CD (P = 0.05)

Varieties at dates of planting 0.66

Rates of planting of same varieties 0.67

Both the varieties showed their superiority under 15th November planting. However, it was interesting to note that while 'Kufri Jyoti' showed its superiority under 15th November planting followed by 30th October planting, 'Kufri Megha' produced higher yield under 30th November planting than 30th October planting. From the results it appears that the planting of 'Kufri Megha' can be extended upto 30th November.

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