

Effect of sowing dates and number of leaf cuttings on growth and yield of palak (*Beta vulgaris* L.)

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ABSTRACT

An investigation to study the effect of sowing dates (1st November, 15th November, 1st December and 15th December) and number of leaf cuttings (No cutting, one, two, three cuttings) on growth and yield of palak revealed that maximum plant height, more number of leaves were obtained when palak was sown on 1st November with no cutting. Highest number of branches per plant were recorded with one cutting, whereas maximum green yield per plant with three cuttings and highest seed yield per plant with one cutting were recorded on 1st November sowing at Parbhani conditions.

Key words : Leaf cuttings, Spinach, Sowing dates, Green and seed yield, Palak

Indian spinach (*Beta vulgaris* L.) is one of the most important leafy vegetables consumed all over the country. It is commonly known as Palak and is very popular due to its high nutritive value. Spinach leaves are valued for their medicinal properties. The leaves are used in inflammation, paralysis, headache and is a remedy for diseases of spleen and liver. Fresh leaves are applied to burn and bruises. It also act as a mild laxative besides other medicinal values. Indian spinach is most probably native of Indo-Chinese region. In India, it is grown on large scale. Spinach has great importance amongst all leafy vegetables and due to its shortest span of life, many vegetable growers are attracted towards this vegetable. The requirement of quality seeds is raising rapidly. The growth, yield and quality of spinach leaf and seed yield in a particular area depends on genetic constitution of cultivar, favourable environmental factors and adoption of improved agro-techniques. Among the improved agro-techniques, use of fertilizers, number of leaf cuttings and spacing also affects leaf and seed yield potentiality. Leaf and seed yield can be increased by sowing at proper dates taking adequate number of leaf cutting. Hence, the present trial was undertaken to standardize sowing date and the number of leaf cutting for harvesting maximum yield.

MATERIALS AND METHODS

A field trial was carried out at Research Farm of Department of Horticulture, Marathwada Agricultural University, Parbhani as a split plot design using four dates of sowing as main factor and different cuttings as sub factor. The experiment was laid out in three replications. Sowing of seeds of all green varieties was done on flat

beds. Cuttings were undertaken at 5 cm above ground level.

RESULTS AND DISCUSSION

Data on plant height presented in Table 1 revealed that superior plant height was observed at D₁ sowing (70 cm) followed by D₂, D₃ and D₄. Maximum height might be due to receiving favourable climatic conditions from germination to full vegetative growth. Similar observations were also recorded by Mustafa (1969) in palak. In case of cuttings, C₀ (control) was significantly superior over C₁, C₂ and C₃ for plant height. The results are in agreement with the findings of Parkhee (1978) in spinach. Interaction of D₁C₀ recorded significantly more height of plant. Minimum height was observed under D₄C₃.

It was noticed that number of leaves per plant (11.77) was maximum when seeds were sown on 1st November (D₁). This is because of low temperature, which helped for vigorous plant growth, such condition were available to the crop sown at D₁ (1st November) which resulted in more vegetative growth expressed in terms of more number of leaves per plant. Cutting C₀ (control) was significantly (13.89) superior over C₁, C₂ and C₃. The maximum number of leaves per plant may be due to continued vegetative growth as leaves were not cut. However, average number of leaves were reduced with number of cuttings because of suppressed vegetative growth. Plants under treatment C₁, C₂ and C₃ would have got cutting shock and were disturbed, which ultimately loose their stored food material leading to development of less number of leaves per plant. These findings are in conformity to those reported by Parkhee (1978) in spinach