

## EFFECT OF PHOSPHORUS FEEDING ON LEAF SIZE OF STEVIA PLANT

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### ABSTRACT

This article provides data on effect of phosphorous application on leaf size of stevia plant. Accordingly, phosphorus feeding has been found to have a certain effect on the size of leaves, whether the leaves are large or small, and the width and length of each leaf in the stevia plant. In order to ensure that the size of the leaves of the stevia plant is large and fully meets the requirements of the model, it is recommended to meet the plant's need for mineral nutrients, including phosphorus nutrients, during the season.

**Keywords:** leaf, mineral fertilizers, norm, phosphorous, seedling thickness, sowing dates, stevia, variant, yield.

### INTRODUCTION

Keeping and improving product quality is one of the most important tasks in the cultivation of agricultural crops. Due to this, the study of product quality is required in all scientific works. The stevia plant is grown for its leaves, so it is advisable to study the leaf quality of stevia in practice, as well as the factors that affect leaf quality. The quality of the product in the stevia crop depends primarily on the chemical composition of the plant, the presence of minerals and vitamins in the plant and their amount. The research work on the product quality of stevia plant, the chemical composition of the plant has been studied mainly in foreign countries in the research work of scientists such as P.Larkin, T.Thorpe, J.Yasil, M.Aparajta [9]. However, these studies have been conducted in Russia, Germany, Sweden, the United States, Canada, East Asia, Japan, China, Korea, Australia, and New Zealand. Especially in countries such as Japan, China, Korea, the attention to the stevia plant is growing. In Japan, stevia cultivation has risen to the level of national value.

Interest in stevia has been growing in Uzbekistan in recent ears. This has been studied in the scientific works of such scientists as I. Belolipov [1], T.M. Duseynov, T.K. Duseynov [3], I. Belolipov [7], J. Tursunov [7], B. Baykabilov [1]. The scientific work mainly studied the morphology, systematics and biological properties of the plant. However, the technology of stevia cultivation in the conditions of our republic is not sufficiently studied, there is insufficient scientific data in this regard.

### MATERIALS AND METHODS

The experiment was conducted in Uychi district of Namangan region. The experimental field consists of light-colored sierozem soils, moderately sandy with a mechanical composition,

irrigated from time immemorial, not saline. Field experiments were conducted according to B.A.Dospekhov's (1982) "Methods of conducting field experiments". All phenological observations were made in the calculated areas of each variant, in isolated plants. Leaf area of stevia plant and total leaf area per hectare are determined by the method of A.A.Nichiparovich, biological productivity is determined by the method of I.S.Shatilov, M.K.Kayumov.

## RESULTS AND DISCUSSION

Leaf size is also important in the formation of the leaf area in the stevia plant. The leaves of the stevia plant are oblong in shape, and the size of the leaves depends on the variety and to some extent on mineral nutrition. The effect of mineral nutrition on plant size is presented in Table 1 and Figure 1.

**Table 1** Effect of phosphorus feeding on leaf size of Stevia plant, (mm), 2017

№	Options	Size of leaves	
		width, mm	length, mm
1	Control	35	76
2	N <sub>50</sub> P <sub>175</sub> K <sub>50</sub>	47	98
3	N <sub>50</sub> P <sub>150</sub> K <sub>50</sub>	45	94
4	N <sub>50</sub> K <sub>50</sub>	39	85

In the experiment, the lowest indicators of stevia plant leaf size were recorded in the control variant without mineral fertilizers. In the control variant, the width of the stevia plant leaf was 35.0 mm, and the length of the leaf was 76.0 mm. The width of the leaf was 47.0 mm, and the length of the leaf was 98.0 mm in the option where mineral fertilizers were used in a relatively high rate, phosphorous fertilizers in a rate of 175 kg/ha.

In option 3, where phosphorus fertilizers were applied at the rate of 150 kg/ha, it was observed that the width of the plant leaf was 45.0 mm and the length was 94.0 mm. In option 4, where phosphorus fertilizers were not used at all, the width of the leaf of the stevia plant was 39.0 mm and the length was 85.0 mm.



**Figure 1.** Effect of Phosphorus Feeding on Leaf Size of Stevia Plant, 2017

## CONCLUSION

Therefore, phosphorus feeding has been found to have a certain effect on the size of leaves, whether the leaves are large or small, and the width and length of each leaf in the stevia plant. In order to ensure that the size of the leaves of the stevia plant is large and fully meets the requirements of the model, it is recommended to meet the plant's need for mineral nutrients, including phosphorus nutrients, during the season.

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