



Research Article

Response of different sources and levels of potash on quality, NPK content and uptake of isabgul (*Plantago ovata* Forsk)

C.J. PATEL, J.J. PATEL, R.A. PATEL, R.L. CHOTALIA, K.M. GEDIA AND A.R. PATEL

ABSTRACT : Application of 60 kg K₂O ha⁻¹ from potassium sulphate (K₂SO₄) was most effective for securing higher seed yield and yield attributes. The test weight of 1000 seeds, swelling factor, lodging and diseased index were non-significant due to different sources and levels of potash. The nitrogen, phosphorus and potassium content were also found non-significant due to different sources and levels of potash. The significantly maximum nitrogen, phosphorus and potassium uptake of isabgul seed was observed under the treatment S₂ (K₂SO₄) and treatment K₄ (80 kg K₂O/ha) due to influence of different sources and levels of potash, respectively, but in case of isabgul straw had non-significant response. The interaction effect was non-significant.

KEY WORDS : Isabgul, *Plantago ovata*, *Blonde psyllium*, Potash

How to cite this Article : Patel, C.J., Patel, J.J., Patel, R.A., Chotalia, R.L., Gedia, K.M. and Patel, A.R. (2012). Response of different sources and levels of potash on quality, NPK content and uptake of isabgul (*Plantago ovata* Forsk), *Internat. J. Forestry & Crop Improv.*, 3 (2) : 92-94.

Article Chronical : Received : 16.06.2012; Revised : 15.08.2012; Accepted : 20.09.2012

INTRODUCTION

Blonde psyllium is an important medicinal crop of Gujarat. Due to low cost of production and higher return from the crop. Gujarat commands near monopoly in the production and export of isabgul seed and seed husk to the world market. It is cultivated in India about 1.3 lakh ha with production of 77000 MT seed. (Desai and Devra, 2008). Earning about 130 crores rupees from the isabgul seed and 150 crores rupees from husk were exported valued together Rs.280 crores. Isabgul is raised as a *Rabi* season crop and grown in all type of soil under irrigated conditions but does best on loamy soils. Water is scare commodity, which if used judiciously along with suitable agrotechniques would substantially increase both plant

growth, yield and yield attributes. Application of fertilizers in proper amount and in proper time will go for higher crop production. Potassium application increases the plant's growth and yield because it participates in the mechanism of stomatal movement, photosynthesis and helps in osmoregulatory adaption of plant due to water stress (Weimberg *et al.*, 1982). With these dual purpose agronomic aspects in mind, an attempt has been made to conduct an experiment on response of different sources and levels of potash on growth, yield attributes and yields of isabgul (*Plantago ovata* Forsk).

EXPERIMENTAL METHODS

A field experiment was conducted during *Rabi* seasons of the year 2009-10 at College Agronomy Farm, B. A. College of Agriculture, Anand Agricultural University, Anand, Gujarat. The soil was sandy loam in texture. The soil was low in available nitrogen, medium in phosphorus and low in potash. The experiment was laid out in Factorial Randomized Block Design (FRBD) with four replications. The treatments consisted of two sources of potash and five different levels of potash *viz.*, S₁: (Potassium chloride, KCl), S₂: (Potassium sulphate, K₂SO₄)

MEMBERS OF RESEARCH FORUM

Address of the Correspondence :

C.J. PATEL, Department of Agronomy, Anand Agricultural University, ANAND (GUJARAT) INDIA

Address of the Coopted Authors :

J.J. PATEL, R.A. PATEL, R.L. CHOTALIA, K.M. GEDIA AND A.R. PATEL, Department of Agronomy, Anand Agricultural University, ANAND (GUJARAT) INDIA