

Research Article

Management of powdery mildew of pea (*Pisum sativum* L.) caused by *Erysiphe polygoni*

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ABSTRACT

Powdery mildew of pea (*Pisum sativum* L.) due to (*Erysiphe polygoni* D.C.) cause much damage to the crop. An experiment was conducted in 2008-09, 2009-10 and 2010-11 to know the effective fungicidal practice for management of this disease. Three foliar sprays at 10 days interval from initiation of the disease of Bayliten (0.25%) gave average minimum (5.65%) disease intensity and maximum grain yield 3.080kg/ plot (3.2m x 3.0 m). In term of cost-benefit ratio treatment (T5), three foliar sprays of Bayliten (0.25%) at 10 days interval from initiation of the disease gave (1:2.03).

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INTRODUCTION

Table pea (*Pisum sativum* L.) is an important vegetable crop for providing Protein to vegetarian population of India. It is grown as winter vegetable in plains of North India and as summer vegetable in hills. Severe losses to the table pea are caused by different pathogens such as *Erysiphe polygoni*, *Uromyces viciafaebae*, *Mycosphaerella pinodes*, *Ascochyto pisarum*, *Sclerotinia sclerotiorum*, *Pernospora pisi*, *Uromyces fabae* and *Septoria pisi*. Among them Powdery mildew caused by (*Erysiphe polygoni* D.C.) is a serious disease which is responsible for reduction in pod numbers to about 21-30 per cent and reduction in pod weight about 26-47 per cent, when the crop is infected about 100 per cent (Munjal *et.al.*, 1963). The pathogen of this disease is an obligate parasite. The conidia produced as a result of primary infection on alternate host are wind-blown, brought on to healthy leaves and other parts, hence foliar application of fungicidal chemicals strategy was taken up to control.

MATERIALS AND METHODS

The trial was conducted in three years *viz.*, 2008-09, 2009-10 and 2010-11 with nine treatments along-with control in the experimental field of Vegetable Research Farm, Kalyanpur of Chandra Shekhar Azad University of Agric. and Tech., Kanpur

with individual plot size (3.2m x 3.0m). Treatments were : three foliar sprays of Tridemorph (Calixin), three foliar sprays of Flusilazole (Cursar), three foliar sprays of Tebuconazole (Folicure), three foliar sprays of Sodium bisulphate, three foliar sprays of Bayliten, three foliar sprays of Difeneconazole (Score), three foliar sprays of Wetttable sulphar, three foliar sprays of Neem oil and three foliar sprays of Carbendazim were used. Highly susceptible variety of table pea, Azad P-1 were used in all three years, 2008-09, 2009-10 and 2010-11. Disease intensity were recorded after 10 days of every spray and average were calculated separately in every years. Yield data of grain were also weighted after harvesting of the crop and average were calculated separately in every year.

RESULTS AND DISCUSSION

Perusal of three years data depicted in Table 1 revealed that treatment, three foliar sprays of Bayliten (0.25%) at 10 days interval from initiation of the disease was found significantly ($P < 0.05$) superior in respect of mean, disease intensity (5.65%), yield (3.050 kg /plot) and (1:2.03) benefit-cost ratio followed by three foliar sprays of Tridemorph (Calixin) @ (0.1%) at 10 days interval from initiation of the disease refelacted (6.59%) disease intensity, (2.950kg/plot) grain yield and (1:2.03) cost-benefit ratio. Best third treatment was three foliar sprays of flusilazole (0.1%) at 10 days interval,