Effect of date of sowing on yield and disease intensity of Alternaria blight in linseed

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ABSTRACT

Alternaria blight of linseed caused by a fungal pathogen, *Atlernaria lini* is an important disease. Investigations were made on the effect of sowing dates on disease intensity and yield of linseed crop. Highest disease intensity was recorded when crop was sown on 10th October and it gradually declined on later dates sown crop. Highest seed yield with less disease intensity was obtained when crop was sown on 30th October followed by 20th October.

Key words : *Alternaria lini, Linum usitatissimum,* Sowing dates.

Linseed (*Linum usitatissimum* L.) is an important *rabi* oilseed crop and a major source of oil and fibre. The average productivity of this crop is very low (about 3.0 q/ha), for which diseases are one of the major reasons. Among fungal diseases, Alternaria leaf /bud blight caused by *A.lini* Dey is a serious threat in Northern high humidity regions of the country causing 22.3% yield losses (Singh and Singh, 2004). Present study was undertaken to record the first appearance and progress of Alternaria blight in relation to different sowing dates and effect on disease intensity and yield.

Effect of sowing date plays a key role in the disease development and yield of the crops and the knowledge of this factor is imperative in working out a strategy for disease management. To avoid disease loss in the crop, it is to adjust the sowing date so that it escapes this factor conducive to disease development. So, the studies were carried out in relation to disease intensity and date of sowing on yield of linseed crop.

MATERIALS AND METHODS

The experiment was conducted at Research Farm of C.S.A. University of Agriculture, Kanpur for two successive years 1999-2000 and 2000-2001. Chambal variety of linseed was sown in 3x2.1 m plot size at 10 days intervals starting from 10th, Oct, 20th Oct., 30th Oct., 10th Nov. and 20th Nov. in R.B.D. with four replications. Disease severity was recorded based on infected leaf area percentage. The data on first disease appearance were recorded at each sowing date.

RESULTS AND DISCUSSION

The disease appearance and further progress in relation to different dates of sowing were observed at Kanpur during *rabi* 1999-2000 and 2000-2001. On the basis of two years investigation, it was observed that the disease first appeared in first week of January when crop was sown on 10th and 20th October whereas on 30th October and 10th November sown crop, the disease appeared in the second week of January. However, in case of 20th November and 30th November sowing, the disease appeared in third week of January.

The data in respect of the effect of date of sowing, disease intensity and yield were recorded and statistically analysed, which are presented in Table 1.

A perusal of Table 1 indicates that the effect of different sowing dates on disease intensity as well as seed yield was found to be significant in both the years. Highest average yield (523.80 q/ha) was obtained when sowing was done on 30th October followed by 20th October sowing having the averge yield of 484.12 kg/ha and intensity 26.52% during both the years. However, sowing on 20th November gave lowest yield during both the years. No significant yield difference was observed when sowing was done on 10th and 20th October during both the years.

The disease intensity was slow during the month of January. It became rapid during the last week of February. Similar trends were reported by Singh and Singh (2004), who recorded that the linseed crop sown on 5th November gave highest yield and less disease intensity. Saxena (1998) reported that mustard crop sown on 15th October gave the maximum yield with lower disease intensity in case of blight of mustard caused by *Alternaria brassicae*.