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RESEARCH NOTE

Screening of pea varieties, germplasm lines and genotypes against pea wilt (*Fusarium oxysporum* f.sp. *pisi*)

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ABSTRACT

Field experiment has been carried during *Rabi*, 2009, to find out pea varieties, germplasm lines and genotypes against pea wilt incited by *Fusarium oxysporum* f.sp. *pisi*. Among the pea verieties tested, Arkel was found most susceptible with significantly highest mean wilt incidence (22.66%), and this was followed by Latur local-1 (29 %) and Latur Local-2 (28%). Soldier was found moderately susceptible with mean wilt incidence of 19 per cent. Thus, pea variety Soldier may be preferred for sowing during first fortnight of October, so as to minimize the yield losses due to wilt incidence.

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Pea (*Pisum sativum* L.) is one of the important pulse crops grown in Maharashtra. Peas are cultivated for the fresh green seeds, tender green pods, dried seeds and foliage and cooked as a vegetable, marketed fresh, canned and frozen. Pea is affected by several plant pathogens including fungi, bacteria and viruses that cause serious diseases. Among the fungal diseases, wilt incited by *Fusarium oxysporum* is considered as one of the most devastating diseases of the pea, which results in heavy yield losses.

Wilt (*F. oxysporum*) is one of the most important diseases and reported to occur worldwide in the countries *viz.,* India, Bangladesh, Brazil, Philippines, South Australia, Taiwan, Thailand, Tropical Africa, France, USA, Pakistan, China, Rassia, Canada and many other countries. In India, wilt (*F. oxysporum*) was reported to occur and cause heavy quantitative and qualitative losses in pea, chickpea, pigeonpea, lentil and many other important pulse crops grown in the state of Maharashtra, Karnataka, Andhra Pradesh, Orissa, Tamil Nadu and Madhya Pradesh (Raabe *et al*.,1981 and Grewal, 1988).

Pea cultivation throughout the country in general and in the region of Marathwada and Western Maharashtra particularly has been facing the serious menaces of wilt incidence. Most of the pea cultivars under cultivation are highly susceptible to the wilt. Hence, it was necessary to find out the disease resistant/tolerant sources for successful management of the disease.

Keeping in view, the economic importance of the crop and yield losses caused by Fusarium wilt in pea, present study was undertaken.

To identify the sources of wilt resistance in the varieties, cultivars and germplasm lines of pea, screening was undertaken in screen house at the Department of Plant Pathology during *Rabi,* 2009.

Screening of available pea varieties, germplasm lines, genotypes was conducted in *F. oxysporum* f. sp. *pisi* sick soil in the pot by adding the inoculum. A total of 12 genotypes were sown in pot (10 seed/ pot). The cultivars, varieties and germplasm lines of pea evaluated were Soldier, Arkel, Latur local-1, KS-205, Latur local-2, KS-210, VP-215, Arka Ajit, PMR-53, IP-3, VP-433, and VP-434.

Observations on number of plants wilted from each genotype were recorded at 30, 45, 60, 75 and 90 days after sowing. The per cent wilt incidence was calculated on the basis of initial plant count and total number of wilted plants in each genotype and graded as follows: