

REACTION OF EXOTIC CULTIVARS LINSEED (*Linum usitatissimum* L.) TO INDIAN PHYSIOLOGIC RACES OF *Melampsora lini* (PERS.) LEV.

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Cultivars of linseed which showed resistance to physiologic races of *Melampsora lini* (Pers) Lev. were recorded the information of which can be employed in breeding programme.

Rust disease of Linseed incited by *Melampsora lini* (Pers) Lev. is of common occurrence in Linseed growing regions of the country causing considerable damage in susceptible varieties. In India a large number of Linseed cultivars have been screened against different races or with mixture of races of *Melampsora lini* (Pers) Lev. (Prasada 1958; Misra 1964; Misra and Prasada 1966). The present increase in exotic linseed collection in India envisaged the need to determine the reaction of these cultivar against Indian races of *Melampsora lini* (pers.) Lev. Some studies were under taken on this aspect and the results obtained are communicated in this paper.

MATERIAL AND METHODS

The inoculum of races (1-7) of *Melampsora lini* (Pers.) Lev. was obtained from Wheat Research Station Flowerdale, Simla. The inoculum of these races was multiplied on a Linseed cultivar 'Palampur local' susceptible to all these races under spore proof conditions.

465 cultivars of Linseed from 28 countries viz. Argentina (64), Afghanistan (11), Rumania (3), U.S.A (52), Turkey (26), Sweden (12), Australia (46), Holland (9), USSR (11), Greece (6), France (5), Canada (5), West Germany (4), Iraq (30), Syria (2), Japan (1), Ethiopia (2), Egypt (4), Bulgaria (5), Morocco (4), Hungary (2), S. Africa (1), Iran (31), Ireland (1), Israel (4), Spain (2), United Kingdom (2) and Pakistan (120) were raised in the field at the Project Directorate (Pulses), I. A. R. I. Regional Station Kalianpur, Kanpur (U.P.), in a randomised block design with three replication during 'rabi' 1979-80. The plot consisted of 1 row 3 meter long of each material spaced 45 x 15cm between and within rows. One month old plants of these cultivars were inoculated with spore suspension of mixture of races (1-7) of *Melampsora lini* (Pers.) Lev. Observation on the reaction of these cultivars against rust were recorded at the time of full plant growth following the method described by Flor (1954).

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RESULT AND DISCUSSION

The cultivars which showed resistant reaction against *Melampsora lini* are given below.

EC-1456, 522, 525, 526, 531A, 531B, 536a, 537, 538a, 540, 541, 543, 569b, 572, 1433b, 1457, 1460, 1550I (A), 1387, 1388, 1335, 1297, 1399, 1403, 1412A, 1419A, 1420, 1475, 3095, 1409a, 12077B, 11748, 9964, 6156, 6160, C.I. 1616, 1001A, 1001B, 1001C, EC 1005, 1636, C.I. 2056, P. I. 253784, Deta Azur, Afgan-6, C.I. 1628, Afgan-1-3, 2-1, 11-2, 16-11B, 808B, C.I. 1417, C.I. 1428, EC1426b, 1454, 1463, 1465, 1473, 1537, 1962A, 1963, 1969, 12079, 9827, 12538, 12361 and Dakota.

All other cultivars exhibited susceptible reaction. It was interesting to note that all the cultivars tested from Syria, Japan, Ethiopia, Egypt, Bulgaria, Morocco, Hungary, S. Africa, Iran, Ireland, Israel, Spain, United Kingdom and Pokistan exhibit-

ed susceptible reaction to Indian races of *Melampsora lini* (Pers.) Lev. The cultivars which were found resistant to rust can be employed in breeding programme.

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