

THE INFLUENCE OF RUST AND RUST CONTROL ON SOME CULTIVARS OF SUNFLOWER IN CENTRAL INDIA

C.D. Mayee and M.S. Dhawale,
Department of Plant Pathology, Faculty of Agriculture, Marathwada Agricultural University, Parbhani 431 402, India.

Sunflower is relatively a new introduction to the cropping system of Central India. Rust caused by *Puccinia helianthi* has always been associated with it. The potential of rust was assessed experimentally. A field experiment using rust susceptible and rust resistant cultivars was carried out using split plots of rust infection and rust control. Rust was artificially developed in the subplots and counter split subplots were sprayed with mancozeb-carboxin fungicide combination to keep them rust-free. Chemical control of rust resulted in variations in leaf area protection, seed yield and oil content which were specific to cultivar depending on the level of resistance. For most cultivars the seed yield achieved was well related to variations in rust severity and green leaf remaining at seed development stage. Susceptible cultivars exhibited 25% losses as compared to 12-15% losses in the moderately resistant ones. The degree of variations in the oil content was not commensurate with change in rust severity. Cultivars with good levels of genetic resistance had high yield potentials. The apparent associations between resistance and high seed yield potentials and between resistance and oil content offer a unique opportunity to breeders to choose lines with moderate resistance to rust in breeding programmes in India to combat the disease without additional inputs of chemical protection.