



3rd International Conference on **Agriculture & Horticulture** October 27-29, 2014 Hyderabad International Convention Centre, India

Identification of sources of resistance against Fusarium wilt of Castor

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Aastor (Ricinus communis L.) is an important industrial non- edible oilseed crop, which plays a vital role in Indian vegetable voil economy. It is particularly suitable for resource poor farmers located in marginal areas due to its ability to thrive under low rainfall and soil fertility conditions. Castor wilt caused by Fusarium oxysporum f.sp. ricini is one of the yield limiting factors in the major castor growing areas of the state. The major strategy to manage the disease is to deploy wilt resistant varieties/ hybrids. Host plant resistance as a tactics of disease management can be highly effective looking into the soil-borne nature of the pathogen. Since most of the commercial hybrids presently grown are susceptible to wilt and long term rotations are not feasible, there is a need for identification of diverse sources of resistance. Germplasm is the basic gene pool to search for useful genes and genotypes needed for achieving desirable genetic improvement. In this study, an attempt was made to identify resistant sources against Fusarium wilt of Castor. During Kharif 2013, twenty one germplasm lines and advanced breeding material (source: Directorate of Oilseeds Research, Hyderabad) were screened with high disease pressure in wilt sick plot at Regional Agricultural Research Station, Palem, along with susceptible check Kranthi and resistant check Haritha. Among the germplasm entries, eight accessions viz., RG-1221, 1624, 2741, 2781, 2787, 2800, 3105 and 3093 were found resistant to wilt disease (<20%) up to 150 DAS. Among breeding material, IVHT- 1305, IVHT- 1308 and AVHT- 1354 recorded less wilt incidence and found to be resistant. Further, the test entries were subjected to artificial inoculation by root dip technique under glasshouse conditions for confirmation of resistance. Those lines found promising can be used in breeding programmes to incorporate resistance against Fusarium wilt of Castor.

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