

Evaluation of Turmeric for Tolerance to Foliar Diseases

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Abstract—Turmeric (*Curcuma longa*) (Family: Zingiberaceae) is used as condiment, dye, drug and cosmetic in addition to its use in religious ceremonies. India is a leading producer and exporter of turmeric in the world. The two foliar diseases leaf spot and leaf blotch causes qualitative and quantitative loss to turmeric. To find out tolerant germplasm against these diseases, a total of 11 germplasm including 4 from Coimbatore, Tamil Nadu (CL 32, CL 34, CL 52, CL 54), three from Dholi, Bihar (RH 406, RH 407, RH 410), 4 from Pundibari, West Bengal (TCP 14, TCP 129, TCP 161 and one Local check from Pundibari (TCP 2) were tested at UBKV, Pundibari, Coochbehar, West Bengal for 3 years (2013-14, 2014-15 and 2015-16) and disease intensity was measured. From the three year pooled data, it is evident that TCP 129 recorded lowest leaf blotch (PDI 12.78) and leaf spot (PDI 7.26) disease severity among the 11 germplasm tested including the local check. TCP 14 produced the second lowest leaf blotch disease severity (PDI 13.47) and CL 52 produced second lowest leaf spot disease severity (PDI 8.76). The highest leaf blotch disease severity (PDI 37.39) was recorded by RH 406 closely followed by RH 407 (PDI 37.16) whereas the highest leaf spot disease severity (PDI 36.38) was recorded by RH 410. TCP 129 produced 46.48% and 70.03% less leaf blotch and leaf spot disease over local check respectively. Over all 4 germplasm produced lower leaf blotch disease severity and 7 germplasm produced lower leaf spot disease severity than local check (TCP 2). The highest yield of 14.34 Kg/plot (28.91 t/ha) was obtained by TCP 129 which is followed by TCP 14 with 11.59 Kg/plot (23.37 t/ha) and CL 34 with a yield of 9.30 Kg/plot (18.75 t/ha). The lowest yield of 7.36 Kg/plot (14.84 t/ha) was recorded by TCP 2.

Keywords: Turmeric, Leaf blotch, Leaf spot, tolerant, germplasm.
