

## Research Article

# Diversity and Variability of *Puccinia striiformis* f.sp. *tritici* in Rajasthan

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## Abstract

Ten districts of Rajasthan *i.e.*, Udaipur, Rajsamand, Pratapgarh, Chittorgarh, Bhilwara, Kota, Bundi, Ajmer, Jaipur and Alwar were surveyed during *Rabi* season 2023-24 for incidence and severity of yellow rust of wheat caused by *Puccinia striiformis* f. sp. *tritici*. The maximum incidence (86.11%) and severity (37.27%) of yellow rust of wheat was in Rajsamand district while minimum incidence (31.67%) and severity (12.09%) was in Alwar district. The overall data revealed that the disease incidence and severity of yellow rust of wheat in different wheat growing areas of Rajasthan varied from 26.67 – 88.33 per cent and 10.36 – 38.88 per cent, respectively, with an average of 61.61 per cent incidence and 27.04 per cent severity. Ten isolates of *Puccinia striiformis* f. sp. *tritici* were collected from surveyed districts. All isolates exhibited variability in respect to morphological and pathogenic characters. In morphological variation, maximum diameter (27.5 µm) of urediospore was measured in isolate RJPst-10 with bright orange to yellow color. The shape of urediospore varied from round to ovule. The length and width of teliospore varied from 45.2 – 54.7 µm and 16.1 – 24.2 µm, respectively in different isolates. Maximum length (54.7 µm) and width (24.2µm) of teliospore was measured in isolate RJPst-02 while minimum length (45.2µm) and width (16.1 µm) was in RJPst-10 isolate. The isolate RJPst-02 collected from Rajsamand district was highly virulent with 40.12 per cent disease severity.

**Key words:** *Puccinia striiformis* f. sp. *tritici*, variability, wheat, yellow rust

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