Tef leaf rust was the most important disease in distribution and intensity at all the surveyed Regional states (Oromia, Amhara and SNNP). A total of sixty-six fields were observed in all assessed regions and all the observed fields were infected by tef leaf rust disease. The prevalent of tef leaf rust disease was 100% in all regions (Table 2). The lowest severity of tef leaf rust was recorded in South West Shoa and West Arsi Zones. In these zones the severity ranges from 10S-15MS (Table 1). Smut has been observed in both West Arsi, (Arsi Negelle District) and Alaba Zones during the surveying season. The incidence of this disease was about 10% in the observed fields. In all assessed fields in Oromia region the tef leaf rust disease attacks only the leaves of the tef varieties.

Table 2: Prevalence, Incidence and Severity of diseases on tef genotypes.

Diseases	Quncho			Magna			Kora			Local		
	Prev.	Inc	Sev	Prev.	Inc.	Sev.	Prev.	Inc.	Sev.	Prev.	Inc.	Sev.
Tef Rust	100	100	60S	100	100	60S	100	80	30MS	100	100	30MS
Smut	4	5		4	0		4	0		4	10	

The highest severity has been observed in SNNP region frequently at different zones. The highest tef leaf rust disease severity of (60S) was observed in Gurage on lately planted tef varieties Quncho and Magna. In most zones of this region the tef leaf rust has been observed in all parts of the plant above the ground parts (Stem, leaf sheath, pandicle, panicle, spikelet). For tef leaf rust disease this attack was unusual.

From the assessed fields Quncho variety was the most popular (38%) and followed by Magna which accounts about 31% area coverage. Different severity levels were also recorded on the variety Quncho, local and Magna variety based on different agro ecologies. The smut diseased sample was observed under microscope. The shape and size of the spores looks like the loose smut that attacks the false oats and barley. For further identification the tef seeds will be infected by the pathogen and then planted at green house.

Conclusion and Recommendations

Even though the yield loss caused by this pathogen is not clearly studied and quantified in the area in the studied crop, this study indicates the presence of multiple diseases at different growth stage of the tef. In this study, one pathogen attacking tef plant was observed across surveyed areas. Among all fungal diseases reported, tef leaf rust is the most frequently encountered diseases in surveyed areas.

Results from tef leaf rust survey in nineteen zones reveals that tef leaf rust was prevalent everywhere tef variety is grown during main season with varying degree of incidence and severity. However, the occurrence of the tef leaf rust disease was 100% in all of the surveyed area of the zones. The disease was severe in Meskan, Sankura, Worabe and Shashemene districts with severity of 50-60S. The severity of the disease was increased because of improved agronomic practices (Row planting and cultivars) that are susceptible to disease become common and no chemical control was practiced to tef leaf rust disease.

Generally, in nineteen zones where survey was conducted 38 and 31% of the fields were planted by varieties relatively susceptible reaction of Quncho and Magna, respectively. Efforts should be made towards the integration of multiple disease control options. Varietal diversification is also another issue to minimize the effect of this disease. This study indicates that there was no the use of fungicide to control this disease. Currently, the disease was becoming severe and using fungicide may be an option to control this disease. The other issue is screening of germplasm to this disease and selecting those tolerant line(s) and incorporating in breeding program will also another option to control this disease in the future.

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