



Wheat rust advisory - risk assessment from surveys and forecasts in Bhutan

Summary period: 03 Mar - 09 Mar 2026

Overall risk level:

Caution / Low

Key messages

Surveys have started in Bhutan, with 11 fields surveyed in Central Bhutan (Trongsa). Low levels of yellow rust were detected in one field.

Forecasts indicate that suitability for disease infection is similar / slightly decreased since the last advisory. Forecasts indicate more rain is likely in the next week and this may result in conducive disease conditions. High suitability for all rusts is forecast in western and southern areas. Current forecasts indicate a low chance of spores coming into Bhutan from infected sites but it should be noted that in previous days, the forecasts were for moderate amounts of stripe rust spores being deposited in western / southern areas.

Given high levels of stripe rust emerging in the hills of Nepal, spore dispersal into Bhutan is likely to continue. The increasing influx of spores, coupled to the very favorable conditions for disease development, indicate that a high degree of caution is needed, and very close observation is recommended on emerging crops in Bhutan. Western, and southern areas plus the Punakha valley and areas in the east need close monitoring.

Recommendations

Very close monitoring of fields, particularly for susceptible varieties, is recommended. Emerging crops (especially in the west/south/Punakha Valley and parts of the east) should be checked for any disease presence. If the forecast rainfall occurs, then disease scouting is important.

Scouting should be undertaken and farmers informed to be vigilant for the emergence of rust (especially stripe rust). In addition, particular attention should be paid to any appearance of stem rust, as it was present in the off season in both Bhutan and Nepal with another new exotic race detected in Bhutan.

- Awareness should be raised amongst stakeholders at all levels, including farmers, to be vigilant for early appearance of rusts. **Early control to stop increased spread and further build-up of disease is very important.**
- Sampling should be undertaken to determine races of rust present.

Field surveys

Looking at surveys in the period since Jan 01 2026. Surveys undertaken Feb 16 2026 - Feb 17 2026. A total of 11 fields surveyed. No leaf rust detected. No stem rust detected. Legend for severity and incidence intensity: Low: less than 20%; moderate: 20-40%; high: more than 40%.

Stripe Rust reported from 1 out of 11 fields surveyed (9%). Moderate to high incidence of stripe rust has been seen in 0 fields (0% of infected fields). Moderate to high severity of stripe rust has been seen in 0 fields (0% of infected fields).

Table 1: Variety analysis of surveys.

Variety	Number of surveys	Number of surveys reporting infection of		
		stem rust	stripe rust	leaf rust
Unknown	11	n/a	1	n/a

Growth stage analysis of surveys unavailable because no surveys available from the last week (since Feb 24 2026).

Leaf rust surveys Bhutan Feb 16 2026 - Mar 02 2026



Leaf rust surveys Bhutan Feb 16 2026 - Mar 02 2026



Map 1: Leaf Rust incidence (top) and severity (bottom) in Bhutan field surveys Feb 16 2026 - Mar 02 2026

Yellow rust surveys Bhutan Feb 16 2026 - Mar 02 2026



Yellow rust surveys Bhutan Feb 16 2026 - Mar 02 2026



Map 2: Stripe Rust incidence (top) and severity (bottom) in Bhutan field surveys Feb 16 2026 - Mar 02 2026

Stem rust surveys Bhutan Feb 16 2026 - Mar 02 2026



Stem rust surveys Bhutan Feb 16 2026 - Mar 02 2026



Map 3: Stem Rust incidence (top) and severity (bottom) in Bhutan field surveys Feb 16 2026 - Mar 02 2026

Spore dispersal forecasts

Spore dispersal forecasts run by the UK Met Office and Cambridge University are displayed for stem, stripe and leaf rusts for the forecasted period. Surveys in each district are gathered to provide a single source per administrative area for dispersal forecasts (red dots in figure).

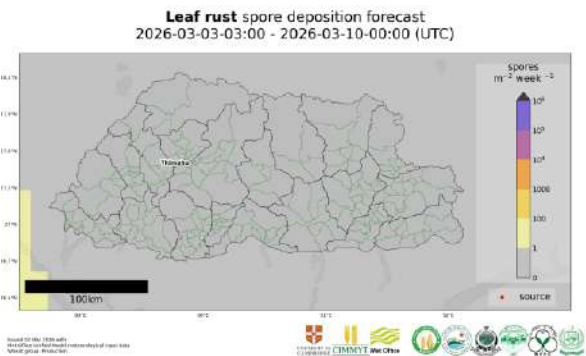
Environmental / climatic suitability for infection forecasts

These forecasts give the probability of wheat rust infection occurring based on meteorological factors. The maximum infection efficiency that can occur is 100%. This means that 100% of the spores deposited on susceptible wheat plants could complete the infection process. Therefore, a forecast Infection Efficiency of 100% indicates the highest risk of wheat rust infection occurring in susceptible wheat varieties.

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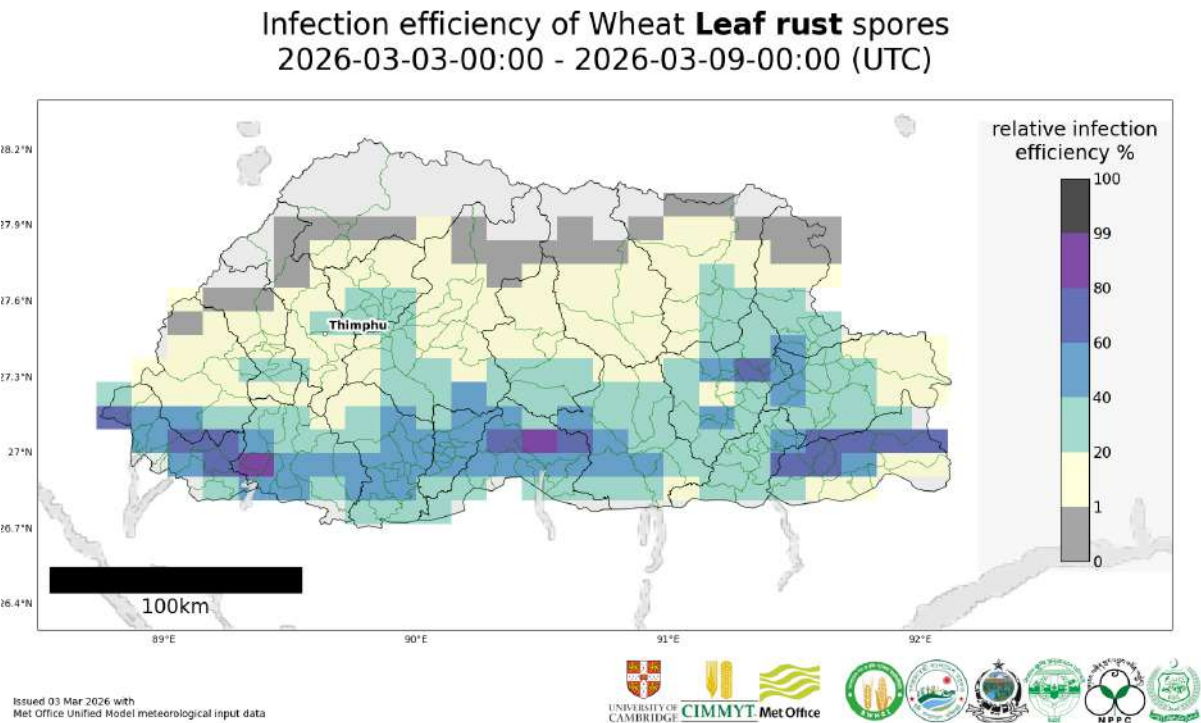
Leaf rust

Dispersal: Current forecast (03 Mar - 09 Mar) indicates no dispersal of spores into Bhutan from infected sites in Nepal.



Map 4: Leaf rust spore deposition forecast Bhutan 03 Mar - 09 Mar 2026

Risk of infection: Current forecast (3 – 8 Mar) indicates slightly decreased suitability compared to the last advisory. However, high infection efficiency remains across southern areas. Moderate infection efficiency in the Punakha valley and in the east.



Map 5: Leaf rust suitability for infection forecast Bhutan 03 Mar - 08 Mar 2026

The 20 most impacted districts (infection efficiency) per country are presented in the table below.

admin2Name	admin1Name	RIE_leaf_rust_%
Denchhukha	Samtse	73
Dungtse	Samtse	71

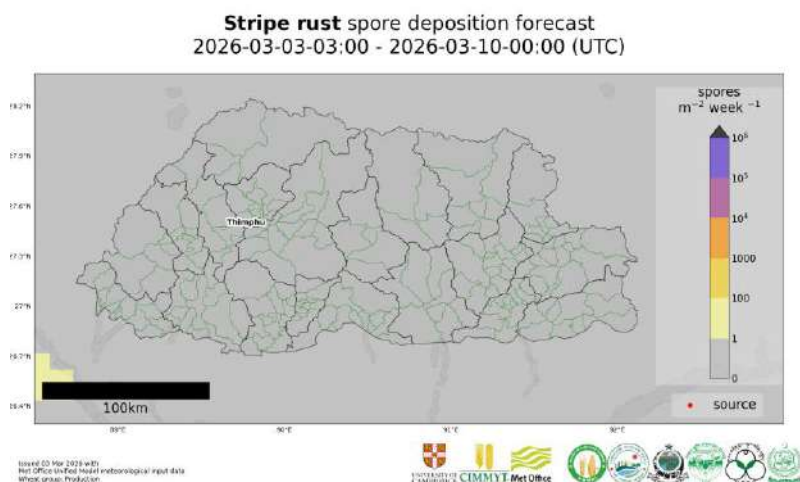
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Dorokha	Samtse	68
Logchina	Chhukha	68
Gomdar	Samdrupjongkhar	60
Phuentsholing	Chhukha	59
Tading	Samtse	59
Chargharay	Samtse	58
Chengmari	Samtse	55
Doban	Sarpang	55
Balam	Monggar	54
Namgyel Chhoeling	Samtse	53
Biru	Samtse	53
Samtse	Samtse	53
Jigmichhoeling	Sarpang	51
Drametse	Monggar	51
Sipsu	Samtse	50
Nanong	Pemagatshel	50
Yoeseltse	Samtse	49
Gesarling	Dagana	49

Wheat rust advisory #3 2026

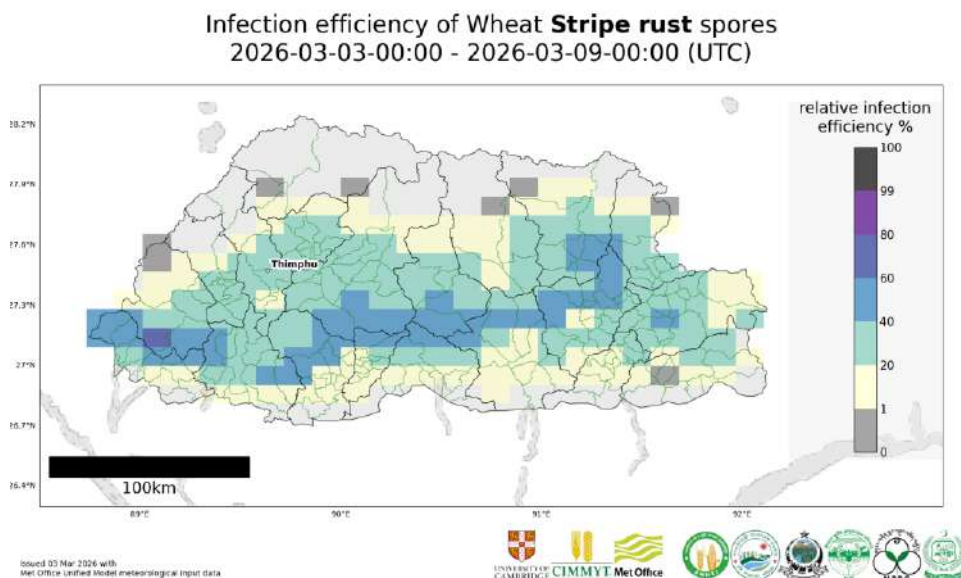
Stripe rust

Dispersal: Current forecast (03 Mar - 09 Mar) indicates currently no forecast dispersal of spores into Bhutan from infected sites in Nepal. (**Note:** that on both 27 & 28 Feb moderate spore deposition was forecast in western / southern areas).



Map 6: Stripe rust spore deposition forecast Bhutan 03 Mar - 09 Mar 2026

Risk of infection: Current forecast (3 – 8 Mar) indicates slightly decreased suitability compared to the last advisory. However, areas of high suitability persist in western, southern, eastern areas and moderate suitability has increased across the central hill areas of Bhutan.



Map 7: Stripe rust suitability for infection forecast Bhutan 03 Mar - 08 Mar 2026

The 20 most impacted districts (infection efficiency) per country are presented in the table below.

Wheat rust advisory #3 2026

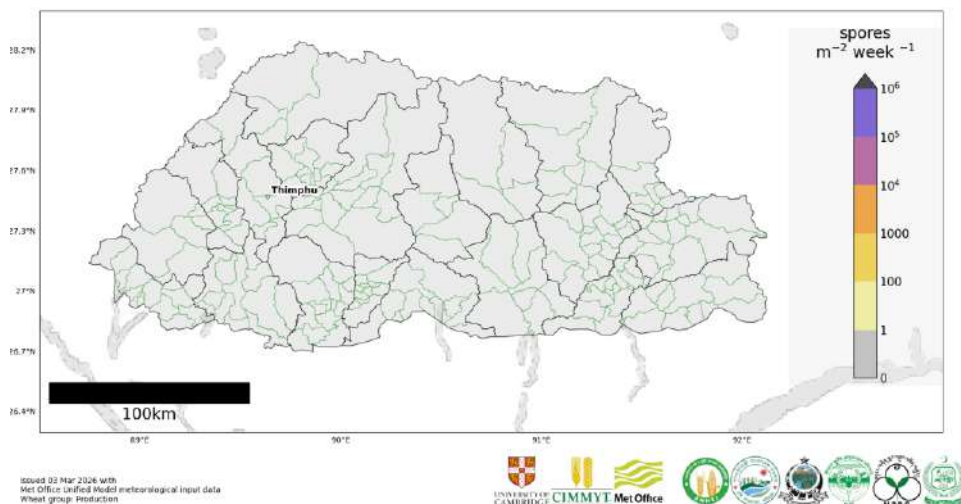
admin2Name	admin1Name	RIE_stripe_rust_%
Bara	Samtse	51
Korphu	Trongsa	48
Gakiling	Haa	48
Namgyel Chhoeling	Samtse	47
Dungtoe	Samtse	45
Tsakaling	Monggar	45
Logchina	Chhukha	44
Tsenkhar	Lhuentse	43
Tendu	Samtse	42
Daga	Wangduephodrang	42
Athang	Wangduephodrang	42
Biru	Samtse	42
Minjay	Lhuentse	41
Metap	Chhukha	40
Ngatshang	Monggar	40
Menbi	Lhuentse	40
Shermung	Monggar	39
Sombey	Haa	39
Denchhukha	Samtse	39
Kalidzingkha	Dagana	39

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Stem rust

Dispersal: Current forecast (03 Mar - 09 Mar) indicates no dispersal as no reports of stem rust.

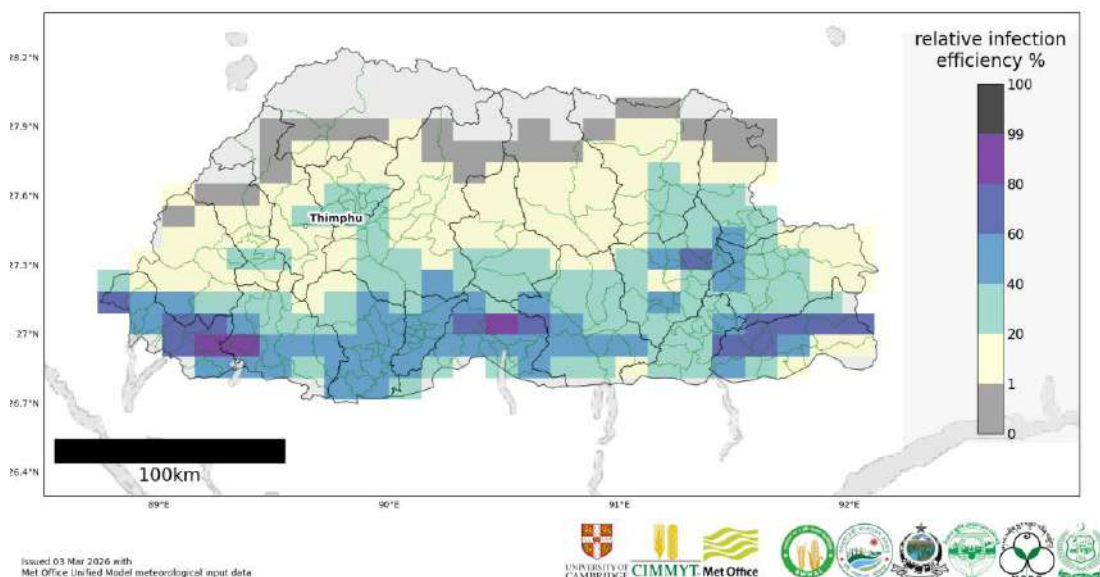
Stem rust spore deposition forecast
2026-03-03-03:00 - 2026-03-10-00:00 (UTC)



Map 8: Stem rust spore deposition forecast Bhutan 03 Mar - 09 Mar 2026

Risk of infection: Current forecast (3 – 8 Mar) indicates slightly decreased suitability compared to the last advisory. However, high infection efficiency remains across southern areas. Moderate infection efficiency in the Punakha valley and in the east.

Infection efficiency of Wheat **Stem rust** spores
2026-03-03-00:00 - 2026-03-09-00:00 (UTC)



Map 9: Stem rust suitability for infection forecast Bhutan 03 Mar - 08 Mar 2026

The 20 most impacted districts (infection efficiency) per country are presented in the table below.

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admin2Name	admin1Name	RIE_stem_rust_%
Dorokha	Samtse	75
Dungtoe	Samtse	71
Denchhukha	Samtse	70
Logchina	Chhukha	68
Ugentse	Samtse	67
Samtse	Samtse	64
Gomdar	Samdrupjongkhar	60
Tading	Samtse	59
Phuentsholing	Chhukha	59
Yoeseltse	Samtse	58
Chengmari	Samtse	58
Chargharay	Samtse	58
Doban	Sarpang	57
Balam	Monggar	54
Wangphu	Samdrupjongkhar	54
Biru	Samtse	53
Namgyel Chhoeling	Samtse	53
Serthig	Samdrupjongkhar	52
Drametse	Monggar	51
Jigmichhoeling	Sarpang	51