



Fighting fire with fire: saving wheat from an aggressive fungus

Wheat researchers and breeders need to be forever vigilant against new and aggressive races of wheat rust.

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Dr Norman Borlaug, a pioneer of the green revolution, often said: “Rust never sleeps.” This is a cry urging wheat researchers and breeders always to be vigilant against the emergence of new and aggressive fungal strains that cause wheat rusts.

Southern African wheat production and food security are at risk due to

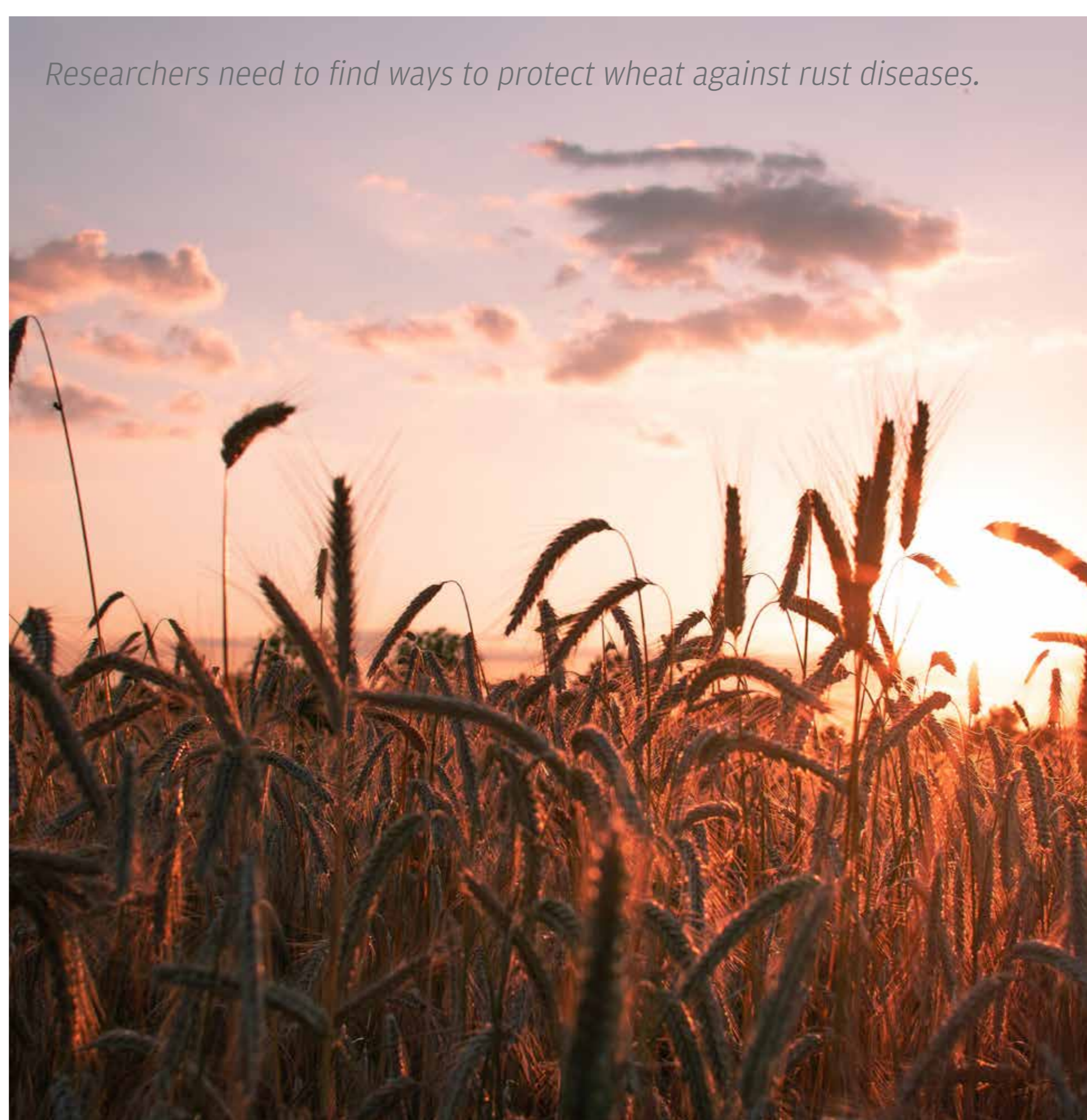
devastating cereal rust diseases, including wheat leaf rust. The risk of severe crop loss and food insecurity is heightened by the frequent emergence of new strains of leaf rust. Due to changes fuelled by climate change and increasingly fragile ecosystems, these new fungal strains are spreading much faster and are

moving to new areas.

“A renewed commitment towards eradicating this serious threat is necessary. This means that the virulence and disease patterns among wheat rust pathogens need to be monitored timeously, with collaborative surveillance. Surveillance is needed in each country and across regions,” says Dr Sandiswa Figlan.

New, advanced tools in genetics could assist in introducing rust resistance into wheat plants and developing rust-resistant varieties. The key to success would be to involve pathologists, breeders, geneticists, physiologists, agronomists and bioinformaticians at different stages of the research and development.

“There needs to be extensive training of young researchers, specifically in the field of plant-pathogen interaction and in the use of high-throughput technologies, in collaboration with African universities. This would generate immeasurable benefits for maintaining and conserving valuable genetic wheat materials and for generating varieties that integrate specific public-good traits, such as durable rust resistance.”



Researchers need to find ways to protect wheat against rust diseases.

