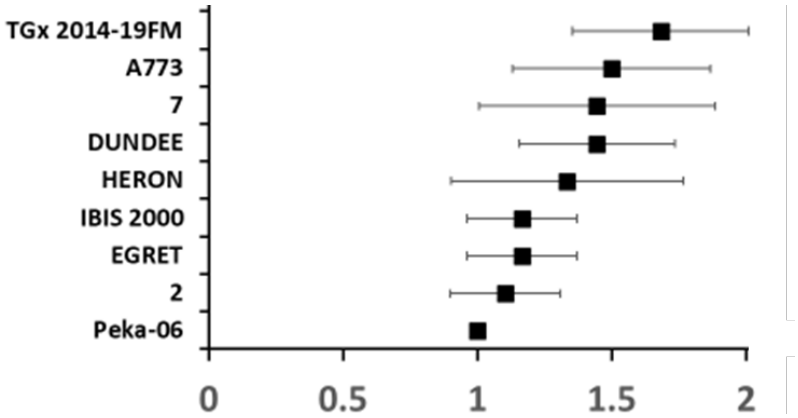
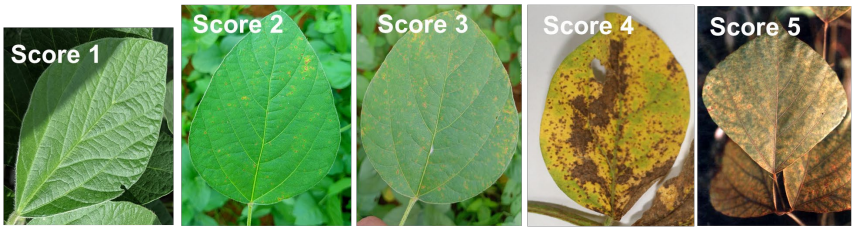
The Soybean Innovation Lab Identified Soybean Rust Resistance in Nine Varieties

The Pan-African Trials (PAT) fast-track the selection of high-performance soybean varieties for Africa through a trialing network that tests soybean lines originating from different breeding programs around the world. Soybean Rust was present in 7.5% of all PAT trials planted from 2015 to 2021, allowing screening for resistant soybean lines.



Rust severity score (squares) of each rust-resistant variety. The whiskers represent the variation associated with each square. Numbers on the vertical axis represent undisclosed varieties.



Rust severity represented by a 1-5 scale, with resistant varieties having a score lower than two.

Peka-06, EGRET, IBIS 2000, HERON, DUNDEE, A773, TGx 2014-19FM and two undisclosed soybean varieties **are resistant to soybean rust** using data from the PAT network.

Who Owns the Resistant Varieties?

Variety	Owner
TGz 2014-19FM	IITA (Zambia)
A773	CSRIO (Australia)
7*	-
DUNDEE HERON IBIS 2000 EGRET	Agricultural Research Council (South Africa)
2*	-
Peka-06	Rwanda Agricultural Board

*Undisclosed varieties. For more information contact soybeaninnovationlab@illinois.edu

The soybean lines in this study are from 15 seed originators at 13 different countries.

Rust Tolerant Varieties

Of the 98 varieties tested by SIL, 89 fall into two groups, tolerant or susceptible. Soybean lines tolerant to Rust had a score that statistically could not be differentiated from two since the whiskers crossed the two line (see Figure 1 below).

In practical terms, **rust-tolerant varieties have an estimated lower disease severity than the susceptible ones and can behave similarly to rust-resistant varieties at certain times.**

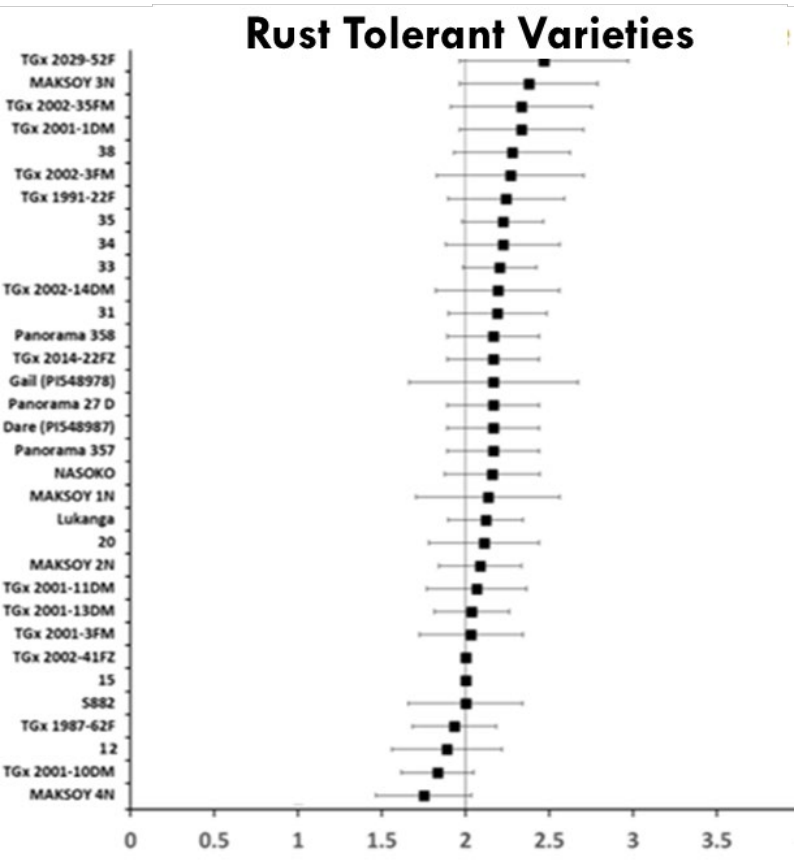


Figure 1. The soybean rust tolerant lines in the PAT locations over the 2015-2021 period.

Want to Have Rust-Resistant/ Tolerance in your Soybean Portfolio?

You can license these varieties!

The Soybean Innovation Laboratory has a commercialization team dedicated to helping you expedite the licensing process with the seed originators!

Contact us at soybeaninnovationlab@illinois.edu

Susceptible Varieties

SIL classified most (56) of the tested soybean lines as susceptible to soybean rust because their score falls above two, with 90% confidence. This is expected because most lines were not bred targeting rust resistance.

Should we avoid planting susceptible varieties?

No. Successful rust management relies on a combination of factors, with varietal resistance being one tool in the toolbox!

Want to check the list with the 56 susceptible varieties? Scan here!