



**Suppl Fig A.** Severity of Asian soybean rust estimated in four assessments (1<sup>a</sup>, 2<sup>a</sup>, 3<sup>a</sup>, and 4<sup>a</sup>) in the F2 (a), F2:3 (b), and F2:5 (c) generations from the cross between BRQ16-5409 and BR13-9499 soybean lines in a trial conducted in Londrina, PR, Brazil, 2022. The resistant cultivar BRS 531 and the susceptible cultivar BRS 523 were the checks. Bars in graphics: standard deviations.

**Suppl Table 1.** Analysis of variance for the predictive ability of genomic prediction models in soybean yield components evaluated in a segregating population under Asian rust pressure.

Source of variation*	Mean squared			
	Seed yield	Days to maturity	Plant height	50-seed weight
Generation (G)	1.6376**	0.0404**	0.2575**	0.8895**
Approach (A)	0.0416**	0.2451**	0.1846**	0.0087**
A X G	0.0227**	0.0006 <sup>n.s.</sup>	0.0005**	0.0042**
C.V.(%)	8.2	2.6	3.4	4.2

\* Generation: F2, F2:3, F2:5 and F2:5(50%) and approach: GBLUP - additive model, GBLUP - dominant-additive model, GBLUP - epistatic-additive model, Bagging, principal component regression, and Bayes-C $\pi$  with additive-dominant model. <sup>n.s.</sup>, \*\* not significant and significant at 5% probability by the F test.

