

**Wheat crop in the state of Rio Grande do Sul, Brazil, 2018.**

Ricardo Lima de Castro, Eduardo Caierão, Aloisio Alcantara Vilarinho, Aldemir Pasinato, João Leonardo Fernandes Pires, and Pedro Luiz Scheeren.

Rio Grande do Sul is one of the main wheat-producing states in Brazil. Our objective was to analyze the wheat crop in RS in 2018. In 2018, RS harvested 709,558 ha of wheat (34.2% of the total area harvested in Brazil), producing 1,750,700 tons of wheat (32.3% of the Brazilian production), with an average of grain yield of 2,467 kg/ha (157 kg/ha below the Brazilian average of 2,624 kg/ha). Among the geographical mesoregions of Rio Grande do Sul state (Fig. 1), the RS Northwest mesoregion harvested the largest wheat area at 581,134 ha (81.9% of the cropped area in the state) and had the largest production, 1,378,427

tons of wheat grain (78.7% of state production) (Table 1). However, the average of wheat grain yield obtained in this mesoregion was the third lowest of the state: 2,372 kg ha<sup>-1</sup> (95 kg ha<sup>-1</sup> below the state average) - Table 1. The RS Northeast mesoregion harvested 36,734 ha of wheat (5.2 % of the cropped area in the state), produced 130,757 tons of wheat grain (7.5 % of state production) and had the highest average of wheat grain yield of the state: 3,560 kg ha<sup>-1</sup> (1,093 kg ha<sup>-1</sup> above the state average) - Table 1. The wheat crop in Rio Grande do Sul state, in 2018, had some unfavorable

weather conditions, notably (i) lots of rain at the beginning of the crop growing period, resulting in high incidence of soil-borne wheat mosaic virus (SBWMV); and (ii) excessive rainfall in spring, resulting in high incidence of *Fusarium* head blight, the most important wheat disease in Rio Grande do Sul state. Comparing the wheat crop data with the results of the State Test of Wheat Cultivars in Rio Grande do Sul state (STWC-RS), in 2018, it was observed that the average of wheat grain yield of commercial crops was 1,717 kg ha<sup>-1</sup> below the average of STWC-RS (4,184 kg ha<sup>-1</sup>).

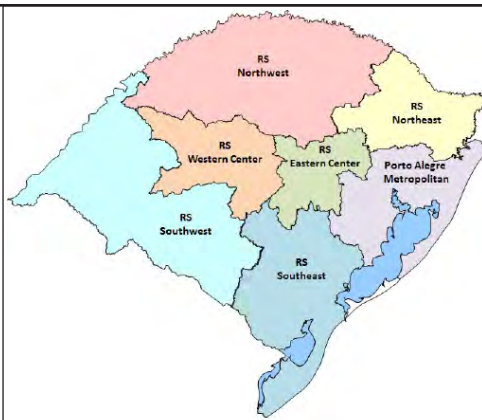
**Reference.**

IBGE. 2020. Produção Agrícola Municipal. Available at: <https://www.ibge.gov.br/estatisticas/economicas/agricultura-e-pecuaria/9117-producao-agricola-municipal-culturas-temporarias-e-permanentes.html?=&t=resultados>. Accessed 28 March, 2020. Note: Banco de dados agregados de estudos e pesquisas realizados pelo IBGE [In Spanish].

**BRS Reponete – high grain yield and wide adaptation wheat cultivar.**

Pedro Luiz Scheeren, Eduardo Caierão, Márcio Só e Silva, Ricardo Lima de Castro, Luiz Eichelberger, Martha Zavariz de Miranda, Eliana Maria Guarienti, Alfredo do Nascimento Jr, Flávio Martins Santana, Leila Maria Costamilan, João Leonardo Fernandes Pires, Maria Imaculada Pontes Moreira Lima, Douglas Lau, Gilberto Cunha, and Sírio Wicholter; Manoel Carlos Bassoi (Embrapa Soja, C.P. 231, 86.001-970 Londrina, Paraná, Brazil); and Vanderlei da Rosa Caetano (Embrapa Clima Temperado, C.P. 403, 96.010-971 Pelotas, Rio Grande do Sul, Brazil).

In wheat breeding, several strategies are applied to improve grain yield. Annually, a great number of cultivars of different origins are crossed. The plants derived from these segregating populations are exposed to the most diverse possible stresses to develop new cultivars with maximum technical and economic efficiency and generate improvements to maximize the economic-environmental sustainability of plantations, while maintaining or increasing the yield potential.



**Fig. 1.** Mesoregions in the state of Rio Grande do Sul, Brazil.

**Table 1.** Area harvested, production, and average of grain yield of wheat in each of the mesoregions (see Fig. 1) of the state of Rio Grande do Sul, Brazil, in 2018 (Source: IBGE. 2020).

Mesoregion	Area harvested		Production		Grain yield (kg/ha)
	ha	%	tons	%	
RS Northwest	581,134	81.9	1,378,427	78.7	2,372
RS Northeast	36,734	5.2	130,757	7.5	3,560
RS Western Center	34,327	4.8	93,255	5.3	2,717
RS Eastern Center	7,670	1.1	16,322	0.9	2,128
Porto Alegre Metropolitan	1,730	0.2	4,211	0.2	2,434
RS Southwest	42,850	6.0	115,819	6.6	2,703
RS Southeast	5,113	0.7	11,909	0.9	2,329
Rio Grande do Sul State	709,558	100.0	1,750,700	100.0	2,467