

[P24]BRAZILIAN SPRING WHEAT GERMPLASM AS SOURCE OF GENETIC VARIABILITY. Silvia Rosa<sup>1</sup>, Linda Langille<sup>2</sup>, Gavin Humphreys<sup>2</sup>, Brent McCallum<sup>3</sup>, Tom Fetch<sup>4</sup>, Harpinder Randhawa<sup>5</sup>, Maria Antonia Henriquez<sup>3</sup>, Harvey Voldeng<sup>2</sup>, Allan Cummiskey<sup>6</sup>, Barbara Blackwell<sup>2</sup>, Pedro Scheeren<sup>7</sup>, Igor Valerio<sup>8</sup>, and Camila Turra<sup>8</sup>.<sup>1</sup>CÉROM, Centre de recherche sur les grains, 740 Chemin Trudeau, Saint-Mathieu-de-Beloeil, QC, Canada, J3G 0E2; <sup>2</sup>Ottawa Research and Development Centre, Agriculture and Agri-Food Canada, 960 Carling Avenue, Ottawa, ON, Canada, K1A 0C6; <sup>3</sup>Morden Research and Development Centre, Agriculture and Agri-Food Canada, 101 Rte 100 #100, Morden, MB, Canada, R6M 1Y5; <sup>4</sup>Brandon Research Station, Agriculture and Agri-Food Canada, 2701 Grand Valley Rd, Brandon, MB, Canada, R7C 1A1; <sup>5</sup>Lethbridge Research Centre, Agriculture and Agri-Food Canada, 5403 1 Ave S, Lethbridge, AB, Canada, T1J 4P4; <sup>6</sup>Crops & Livestock Research Centre, Agriculture and Agri-Food Canada, 440 University Avenue, Charlottetown, PE, Canada, C1A 4N6; <sup>7</sup>EMBRAPA Trigo, Rodovia BR 285, Km 294, s/n, Passo Fundo, RS, Brazil, 99050-970; and <sup>8</sup>OR Sementes, Av. Rui Barbosa, 1300, Passo Fundo -RS, Brazil, 99050-120 Correspondence to: [silvia.rosa@cerom.qc.ca](mailto:silvia.rosa@cerom.qc.ca)

As part of a Canada-Brazil germplasm exchange, 106 modern and ancient Brazilian spring wheat cultivars have been genotyped and phenotypically evaluated in Canada since 2014. There were four cultivars that exhibited adult plant resistance to leaf rust, and the absence of Lr34 was confirmed in two with molecular markers. Forty-eight cultivars were resistant to leaf rust at the seedling stage to six predominant Canadian races. In Alberta, 55% of the cultivars had severity to stripe rust lower than 30%, while to leaf rust scored in Manitoba, it represented 98% of the collection. There was 76% of the cultivars with severity of 30% or less to powdery mildew, and 57% with resistance to stem rust. The Brazilian collection was evaluated for agronomic suitability and many cultivars showed good adaptability in the Eastern provinces with high yield potential, but low grain protein. The germplasm is a source of gibberellin-insensitive reduced height (Rht) genes, and almost all lines had the reduced height allele at either the Rht-B1 or Rht-D1 marker. In Fusarium head blight (FHB) nurseries in Manitoba and Ontario, 20% of the cultivars had FHB index lower than 30%. Seventy-nine cultivars were genotyped for FHB QTL, and none of the lines with low FHB scores carried Frontana (3A, 5AS) or Sumai 3 (3BS, 6BS) haplotypes. Additional DNA marker screening will be completed to postulate the genes in the germplasm. Brazilian material is a valuable resource to increase the genetic variability of Canadian wheat and has resistance to various pathogens.