

Potato breeding and cultivar development in Brazil

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In Brazil, potatoes are grown between 31°S and 13°S latitude and between 19 m and 1360 m altitude, with planting dates happening every month of the year. The total growing area is about 140,000 ha with an average yield of 26 t. ha⁻¹. Close to 90% of the area is planted with foreign cultivars, and almost all do not meet processing industry or consumer requirements as well as are not well adapted to grow in Brazilian ecosystems. To reach high yields these cultivars require high use of inputs, making the production costs very high. So it is necessary to develop varieties in Brazil. In this sense Embrapa (the Brazilian Agricultural Research Corporation) has reorganized its breeding program. The program objectives are to develop high-yielding, early maturing, improved tolerance to biotic and abiotic stress cultivars, focusing the demand of the producing regions and consumer markets in the country, either for fresh table-stock or processing. Conventional methods supplemented with molecular techniques are used. Yearly, close to 60,000 new seedlings are included in the selection process. Hybrid populations are selected for horticultural and quality traits for four generations. Then, the selected clones are tested in yield trials as well as evaluated for quality and tolerance to main biotic and abiotic stresses. Clones showing potential to become new cultivars are validated by collaborator growers and simultaneously tested for registration. The approved ones are registered, protected and released as named cultivars. Since the inception of the reorganized program in 2004, three cultivars have been released: BRS Ana in 2007, BRS Clara in 2010, and BRSIPR Bel in 2012.