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Application of genomic breeding systems to accelerate native traits and the rate of genetic gain in soybean

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The global crop production needs to be doubled by 2050 to meet the needs of the growing population. The germplasm development for native traits and genetic gain for yield in soybean must be accelerated to meet the future needs in yield and quality. Innovations in technology and breeding systems will continue to drive crop improvements. Application of genomic breeding systems and simulation tools with a focus on genomic prediction for yield improvement and improving native trait utilization in a commercial breeding program will be discussed. The importance of industry-academia collaborations for commercial germplasm development will be demonstrated using the Dow AgroSciences-Purdue University discovery and application of the novel *Phytophthora* resistance gene, Rps11.