

# Omics for plant breeding

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Since the first crop genome was released in 2002, the genome of almost all major crops have been sequenced. Now it is probably a right time to review what we achieved from the crop genome projects and explore what the newly available genome resources can do for plant breeding. What we achieved from the genome projects is not only a wave of high-impact publications, but also a learning on how to work effectively in a large, multi-disciplined team. The large genomic data facilitated a much better understanding of the evolution of these crops, including human-involved domestication and selective breeding. These big data also helped to decipher a few important traits and also to innovate how we breed vegetable, such as a more productive and tastier tomato, a nonbitter cucumber with foliage insect resistance, and a true-seed-and-diploid based system for potato breeding and propagation.

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