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KeyGene establishes Crop Genome Center

Keygene N.V. announces the establishment of a Crop Genome Center. The Crop Genome Center focuses on the development of high quality genome assemblies of (so called) 6F crops: plants that produce Food, Feed, Fiber, Flowers, Fuel and Fun products. The genomes of the world top 25 crops reflect a tremendous amount of diversity with respect to genome size and organization, ploidy levels, level of sequence repetitiveness and repeat structures. Special expertise and innovative sequencing and assembly strategies are required to elucidate the genome structure of these complex genomes. KeyGene's up to date R&D facilities with next generation sequencing platforms, an extensive computational infrastructure, the availability of a large bioinformatics group and long experience in working with plant genomes form the firm basis of the Crop Genome Center.

The Crop Genome Center has generated genome sequence assemblies of several economically important vegetable and ornamental genomes, including melon, cucumber, cabbages, tomato and petunia. Furthermore, a number of notoriously difficult field crop genomes of large size and with complex repeat structures are also determined, such as potato, tobacco and *Brassica napus*. The completion of these and other genomes brings the Genome Center deep understanding of genome syntenies that enables KeyGene to provide innovative products to its strategic partners and customers that other general genome centers can't offer.

Besides generating cost effective Whole Genome Sequences (WGS), using a combination of proprietary approaches utilizing Illumina GAI and Roche 454 sequencing platforms, KeyGene also deploys its proprietary next generation sequencing technologies. These technologies include Whole Genome Profiling™ (WGP) for the construction of high quality sequence based physical maps, KeyPoint™ for large scale re-sequencing of target genes in the 6F crops for mutation and polymorphism detection and CRoPS® for large scale SNP identification and detection.

Antoine Janssen, Head of the Sequencing Applications Group: "The availability of state of the art high throughput sequencing and genome assembly capabilities is essential for our Crop Genome Center. The recent expansion of our ICT infrastructure allowed us to quadruple our supercomputer capacity to over 200 Terabytes. With these state of the art facilities and our track record on complex crop genomes we are able to generate superior genome assemblies and explore them cost effectively and with very short delivery times".

Mark van Haaren, Vice President Business Development adds: "The success generated with the genome sequence assemblies that we delivered to our partners and customers based on the combination of WGP and WGS attracts a lot of attention and requests. We have already seen many downstream applications based on our genome assemblies. We expect this impact to increase due to the further development of our Crop Genome Center which will result in a more valuable use of our genomic crop databases for world wide partners and customers in the seed industry."

About KeyGene

Keygene N.V. (www.keygene.com) is a R&D company with the mission to be the leading company in developing and applying DNA expertise in the field of molecular genetics with a focus on crop plants.

KeyGene has invested in next generation sequencing platforms to support its leading position in the field of plant molecular breeding and developed several new enabling technologies. KeyGene exploits its proprietary technologies, databases and know-how through strategic alliances, contract research and products for applications in the plant breeding industry. KeyGene has a subsidiary in Rockville Maryland, USA and a Joint Lab at the Shanghai Institute of Biological Sciences in Shanghai, China. In total KeyGene employs 130 researchers and staff.

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