A Study on Chrysanthemum Genetic Diversity Analysis by Genotyping-by-Sequencing

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The application of next-generation sequencing (NGS) for gigantic genomes such as Chrysanthemum is regarding short-reads limitation, repeated sequences in its genome, and many contigs in massive fragments. Genotyping-by-sequencing (GBS) is promising sequencing technology to reduce the drawback of NGS by high-multiplexing and represents potential genotyping approaches with various ranging applications in Chrysanthemum breeding. The work aimed to establish an approach of GBS application and to achieve a phylogenomic structure in a big size genome individual. It was identified a total of single nucleotide polymorphisms (SNPs) (SNP calling was 279,189 and SNP filtering was 7,758) to apply in Chrysanthemum population genetics. The GBS is the best approach of genotyping methods in Chrysanthemum and can be broadly applied in genetic studies and breeding in various plants.

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