Bogotá, August 15st, 2020

Dear Editorial
Board,

We would like to submit our manuscript entitled "*MultiGWAS: An integrative tool for Genome Wide Association Studies (GWAS) in tetraploid organisms*" for consideration for publication as a computer program in Molecular Ecology Resources.

Association studies have become a standard tool for understanding the genetic basis of ecological phenotypic variation in organisms. However, most GWAS tools have been developed for diploid organisms, although polyploidy is common in plants. Therefore we have developed the MultiGWAS tool that performs GWAS analysis on tetraploid organisms by integrating the results of four widely used GWAS programs, two designed for polyploids and the other two for diploids.

MultiGWAS deals with the whole GWAS process, including the input and pre-processing of genomic data in different formats, association analysis by running the four GWAS programs in parallel, post-processing, reporting and replication of results. The latter is particularly addressed by our tool by identifying both the top scored and replicated (shared) associations between the four programs and visualizing them in a way that helps users decide more intuitively on possible true or false associations.

Given that polyploidy is a prominent feature of plant genomes, our tool would be of great interest to researchers studying genetic associations in plant breeding and conservation, which leads us to believe that our work will be of interest to your journal.

Thank you in advance for your consideration,

Best regards.

Luis Garreta
Ivania Cerón-Souza
Manfred Ricardo Palacio
Paula Helena Reyes Herrera

Sede Central
Km. 14, vía Bogotá - Mosquera
Tel: (+57 1) 422 7300
Línea nacional: 01 8000 121515
www.agrosavia.co