Aldrin Cantila

Biography

Aldrin graduated from USM Philippines with a Bachelor of Plant Breeding and Genetics. Following the undergraduate studies, he started his MSc at the UPLB Philippines in Plant Breeding. Now he is doing his PhD at The University of Western Australia.

Research Interests

Genomic analyses between Brassica species and its wild relatives

Current Projects

**Exploring the genetic potential in Australian *Brassica napus* cultivars and its wild relatives for Blackleg resistance**

Summary: *Brassica napus*, canola or rapeseed, is one of the banner crops in Australia. Ensuring high yield is the top priority but it can be limited due to blackleg disease. Crop resistance is lost over a short period, which is the main reason for severe production damage and huge monetary loss. It is important then to explore resistance genes (R) and to gain knowledge of its mechanism and interaction to the disease using phenotypic and genomic evaluation (Whole genome re-sequencing, WGR). Using the canola cultivars and its wild relatives, the project has three main aims. Firstly, to genetically explore novel genes in reference to the existing pangenomes using whole genome re-sequencing (WGR). Variable Rgenes, gene ontologies, predicted functions, other bioinformatics results willbe included to describe the novel genes. Secondly, to determine the candidate genes using genome-wide association analysis (GWAS) based on high throughput of single nucleotide polymorphism (SNP) genotyping and phenotypic results. Thirdly, to gain further understanding to the mechanism of *R-genes* and its relevance to canola breeding. Phylogenetic relationships, analysis of molecular variance, population structure, and other multivariate analyses will be useful in the decision making of the breeding programs.

Publications

**Cantila AY**, Saad NSM, Amas JC, Edwards D, Batley J. Recent Findings Unravel Genes and Genetic Factors Underlying *Leptosphaeria maculans* Resistance in *Brassica napus* and Its Relatives. International Journal of Molecular Sciences. 2021; 22(1):313. <https://doi.org/10.3390/ijms22010313>

**Cantila AY**, Abdula SE, Imbat JB, Quitel AJR. 2020. Additive main effect and multiplicative interaction (AMMI) stability analysis for grain yield of 27 rice genotypes tested in six environments. Phil Sci Lett. 3:6-12.

**Cantila A**Y, Quitel AJR. 2020. Genetic variation in twenty Philippine traditional rice varieties based on grain morphology, yield and micronutrients. Bangla J Sci Ind Res 55(1) January-March 2020 (in-press).

**Cantila AY**, AML Fordan, IV Boholano. 2019. Phenotypic variation and correlation of traits in Philippine hybrid rice varieties. J Bangla Agric Univ 7(2): 179–186.

**Cantila AY**; Abdula SE, Quitel AJR. 2018. Heritability and Predicted Gain of Twelve Traits in Fifty-five Upland Rice Varieties. J Adv App Sci Res 2 (1):1-8

**Cantila AY**, Abdula SE, Candalia HJC. 2017. Study of the Quantitative Traits in Registered Inbred Rice (*Oryza sativa* L.) using Different Statistical Parameters. Phil J Sci 146 (4): 387-393.

**Cantila AY**, Quitel AJR. 2017. Statistical Analysis of Foreign Rice Phenotypes under Different Seasons of the Philippines. J Adv App Sci Res 1 (12):7pages

**Cantila AY**, Espino RRE, Sales EK. 2017. Molecular evaluation of the Philippine best rubber clones using Genomic-based Simple Sequence Repeats. J Adv App Sci Res 1(11): 9-27.

**Cantila AY**, Abdula SE, Balos JL. 2017. Morphometric analysis of upland rice phenotypes in lowland condition. J Biodiversity and Environmental Sciences 10(4): 62-69

**Cantila AY**, Espino RRE, Sales EK. 2017. Genetic variation and structure of rubber population based on microsatellites. International Journal of Biosciences 10(3): 107-117

**Cantila AY**, Abdula SE, Candalia HJC, Balleras GD. 2016. Multiple statistical tools for divergence analysis of rice (*Oryza sativa* L.) released varieties. The Philippine Statistician 65(2): 121-134

**Cantila AY**, Espino RRE, Sales EK. 2015. Utilization of simple sequence repeats markers in the genetic characterization of Philippine rubber, *Hevea brasiliensis* (Willd. ex A. Juss) Muell. Arg., germplasm. Philippine Journal of Crop Science 40(3): 33-39.

Awards

University of Western Australia International Fee Scholarship (UIFS) and University Postgraduate Scholarship Award (UPA)

Outstanding Junior Researcher of PhilRice (Special Citation) in 2017

Department of Agriculture Gawadsaka Oustanding Agricultural Researcher in Region 12 in 2018

DOST-ASHTRDP Scholarship

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