14th Annual Conference on

## CROP SCIENCE AND AGRICULTURE

November 29-30, 2018 Bali, Indonesia

## Comparative phenology, morphology and anatomy of wild and *in vitro* propagated Benguet lily (*Lilium philippinense Baker*)

Leila Mary Bolinto Alipio Ayban Benguet State University, Philippines

Benguet lily (*Lilium philippinense*) is an endemic lily in the Philippines with high potential of being commercialized but with declining population due to human activities. These prodded the conduct of this study to provide baseline information on the comparative phenology, morphology and anatomy of wild and *in vitro* propagated Benguet lily that was grown under natural habitat and greenhouse condition and to illustrate their flower development. On the phenological stages, *in vitro* propagated plants require a longer period to complete a growth stage. Morphologically, wild plants in the natural habitat and *in vitro* propagated plants under greenhouse condition performed better compared to those in switched growing conditions. In the morphometry, differences in both appeared to be highly attributable to the growing conditions, while for the pigmentation, pure white petal, bright yellow pollen grains and light green stem of wild Benguet lily remained unchanged regardless of growing conditions. Similarly, *in vitro* propagated lily maintained the tinge of maroon in the midrib of the petals, base of leaves, base of stems and maroon colored pollen grains were unaffected by growing conditions. Anatomically, wild and *in vitro* propagated plants were similar except for the presence of pigmented cells interspersed in the epidermis of stem, leaves, flower and pollen grain. In flower development, floral part initiation starts in the outside whorl to the formation of gynoecium. In a singular flower, the floral meristem is located apically but with more flowers, ensuing floral meristem develops on the lateral side of the first flower and of at a later growth stage.

## Biography

Leila Mary Bolinto Alipio Ayban is an Assistant Professor at the Benguet State University. She has completed her PhD in Horticulture minor in Agronomy from the University of the Philippines, Los Banos. Her specialization and research interest is in micropropagation, identification, production, conservation and commercialization of endemic, medicinal and high value horticultural crops. Her publications were in the development of cultural management, production and *in vitro* propagation of *Lilium philippinense* and Strawberry. She has completed her Bachelors in Agriculture major in Horticulture minor in Plant Pathology and her Master's degree in Horticulture minor in Rural Development and Plant Pathology from the same university.

laayban@up.edu.ph

Notes: