International Conference on Food, Nutrition and Agriculture (ICFNA19)
September 27-28, 2019 Istanbul (Turkey)
Conference Book
ISBN 978-600-98459-4-1

Some factors influencing lipid content in *Dacryodes edulis* ((G. Don) H. J. Lam) fruits

Salamatou Mpemboura Nsangou[1], Libert Brice Tonfack[1], Didier Mbeguie A Mbeguie[2], Godswill Ntsomboh-Ntsefong[1,3], Carine Temegne Nono[1], Fabrice Tonfack Djikeng[4], Emmanuel Youmbi[1,5*]

[1]Department of Plant Biology, Faculty of Science, University of Yaounde 1, Yaounde, Cameroon,
[2]CIRAD, UMR QUALISUD, F-34398 Montpellier, France,
[3]Institute of Agricultural Research for Development, IRAD, Yaounde, Cameroon,
[4]School of Agriculture and Natural Resources, Catholic University Institute of Buea, P.O BOX 563, Buea, Cameroon.
[5]Tissue Culture Laboratory, African Centre for Research on Banana and Plantain (CARBAP), Njombe, Cameroon

***Corresponding author**: Prof. Emmanuel Youmbi, Department of Plant Biology, Faculty of Science, University of Yaounde 1, Yaounde, Cameroon.
(E-mail: youmbi_emmanuel@yahoo.fr)

Abstract
Dacryodes edulis (G. Don) H.J. Lam is an oil-bearing fruit tree. Its edible fruits are very perishable in their fresh state. Due to the lack of suitable techniques for their long term storage, farmers process them for oil production. Their oil content can reach 70%. With a better understanding of its biosynthesis during the development and ripening of fruits and the factors that can influence this, its extraction could be industrialized. Thus, the aim of this study was to show the relationship between the lipid content of *D. edulis* fruits and moisture content, some morphological parameters, the stage of development and ripening, the definition of successive reproductive phenophases in different agroecological zones (AEZ). Morphological changes in fruits from 14 trees in three majors AEZ were assessed for two consecutive production seasons. The different fruit development and ripening phases were determined and the reproductive phenophases were described in relation to climatic factors. Samples were collected after every 2 weeks from the fruit set to the ripening stage for the determination of the lipid and moisture contents. The correlation between all parameters was established. Results showed that, there was a positive correlation between the time moisture content decreases and when the lipid content increases. These two periods were negatively correlated with the average relative humidity between flowering and anthesis. The period between 18.3 and 19 weeks after fruit set is considered as the average period in which the fruit reaches its maximum lipid content. In the ripe fruits, lipid content did not vary significantly depending on the AEZ, but varied significantly among the fruits from different trees of the same locality. This variation can be attributed to intrinsic factors.
***Keywords**: Dacryodes edulis, Fruit development, Lipid content.*