

Spectrophotometric Determination of L-Dopa in Germinated and Non-Germinated Broad Beans (*Vicia faba* L.) and Chickpea (*Cicer aritinum* L.)

Authors : Wissame Gouigah, Amina Medellel, Mahmoud Trachi, Djedjiga Benamara, Salem Benamara

Abstract : The purpose of this work is to investigate, by UV/VIS spectrophotometry, the distribution of L-dopa, known as precursor of dopamine which is used in the treatment of Parkinson's disease, in broad beans (*Vicia faba*) (Vf) and chickpea (*Cicer aritinum* L.) (CA). In the case of Vf, the different organs were analyzed separately: 1) First, in the fresh state: pod (GF), cotyledons (CF), green shell (EF) and placenta (PF) which is the organ through which the seed is attached to the pod, 2) in the dry state (S): peel of the dry seed (ES) and cotyledons (CS), and 3) in the germinated state: peel (EGe), cotyledons (CGe) and germ (GeVf). Results showed that the content of L-dopa is unevenly distributed between different parts of fresh Vf. But the most important result concerns the predominance of L-dopa in placenta with an L-dopa content (~ 60 mg/g of wet weight, ww) sometimes 7-fold higher ($p \leq 0.05$) than those of other considered parts of fresh Vf. In the case of CA, the L-dopa concentration in germinated gains was higher than those found in all analyzed Vf organs, excepted PF.

Keywords : broad bean (*Vicia faba* L.), chickpea (*Cicer aritinum* L.), L-dopa, Parkinson disease, placenta

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