Input to EFSA Extranet on soybean SYHT0H2 (EFSA/GMO/DE/2012/111)

HDDP is involved in a metabolic pathway where disturbances of enzymatic activities give rise to a number of severe metabolic disorders, among others alkaptonuria (Moran, 2005). In addition, the intermediate homogentisic acid has been shown to have some mutagenic effect (Gatt, 1990; Hiraku et al. 1998). The applicant has quantified some of the molecules (alpha-tocopherol, tyrosine and phenylalanine) associated with this pathway, and found these not to be significant different from the control plant. However, as homogentisic acid is a key intermediate in this pathway, and the molecule with potential deleterious effect if accumulated, the concentration of this compound should also have been measured and compared between SYHT0H2 and the control soybean.

For the toxicity studies, the applicant has tested the recombinant proteins AvHPPD-03 and PAT. However, related to the genetic modifications, it would have been more relevant to test whole food/feed of herbicide treated and untreated plants, and measured more specific the level of the metabolic intermediated related to homogentisic acid in the animals.

Refernces:

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