

Nutritional value of black soldier fly (*Hermetia illucens*) larvae processed by different methods

ABSTRACT

Nutritional value of black soldier fly (*Hermetia illucens*) larvae (BSFL) processed by three different methods of treatment was compared. The resulting products were the spray-dried BSFL (SPR), oven-dried BSFL 1 (OVN1) and oven-dried BSFL 2 (OVN2). Proximate chemical composition, and profiles of amino acids, fatty acids, minerals, heavy metals, vitamins and nucleotides were analysed and compared. The tested BSFL meals were considered to have a good profile of essential amino acids (EAAs), with leucine, lysine, valine, and histidine being the dominant EAAs. Their content of saturated fatty acids exceeded that of the unsaturated fatty acids. Vitamins B1, B2, and C were also present in the samples. Minerals such as calcium, potassium, phosphorus, sodium, magnesium, zinc, iron, manganese and copper were found to be in adequate amounts in almost all the samples. Heavy metals in the BSFL meals were mostly below 1g kg⁻¹. Nucleotides such as inosine monophosphate and uridine monophosphate occurred in all the BSFL meals. Other nucleotides, including guanosine monophosphate, adenosine monophosphate, xanthosine monophosphate, and cytidine monophosphate were detected in either or both of SPR and OVN2. In general, the nutritional value of the BSFL meals tested in the present study was influenced by the method of processing.