Analysis of anthocyanins in eleven rice cultivars (*Oriza sativa*)

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A anthocyanins constitute one of the major groups of natural pigments and may play an important role in the prevention of degenerative illnesses such as cancer, alzheimer's disease or cardiovascular illnesses[1,2]. We investigated the characterization of anthocyanins in eleven individual cultivars of *Oriza Sativa*. HPLC analysis of the extracts of eight black-pigmented rice showed the existence five compounds when 520 nm was selected wavelength, but any peaks were not detected in case of three non-pigmented rice. Mass spectra from the positive ionization mode for the dominant peak eluted at 16. 8 min showed $[M+1]^+$ at *m/z* 485, which corresponded to cyanidin-3-*O*-glucoside. After hydrolysis of the extracts, HPLC profile was differentiated from the previous elution pattern, showing only two peaks at 32 min and 39 min that were not detected before the hydrolysis. Two peaks was identified as cyanidin and peonidin, based on the comparison of their retention times and UV-Vis spetra with authentic standard compound. The result indicates that five glucose- conjugated forms of cyanidin and peonidin are present in the pigmented rice. On the comparison of the anthocyanins content among eleven cultivars, *Oriza Sativa* C3GHi showed the most large quantity of anthocyanins among them to the others. The quantitative analysis of anthocyanins of eleven rice species will be further investigated.

References

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