Evaluation of commercially important chemical constituents in wild black pepper types

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Abstract. Matured black pepper berries from 8 wild types, on chemical screening, showed wide variations in commercially important constituents. The results have been compared with those of the cultivated varieties. The possibility of exploitation of this information in black pepper quality improvement programmes is discussed.

Introduction

The black pepper of commerce is the matured, dried berry of a climbing vine, *Piper nigrum* Linn, of the family Piperaceae. This vine grows from the sea level to an altitude of 1500 meters. It is a plant of the humid tropics requiring adequate rainfall, high humidity and warm climate for its growth. It prefers an annual rainfall of over 250 cm, is tolerant to a temperature range of 10 to 40°C, and thrives well in rich humus soil.

Black pepper is considered to be one of the most ancient crops cultivated in India, and probably originated in south-western India, the region comprising the forests and ghats of Kerala and the North Kanara region of Mysore up to Kanyakumari, where it grows wild on the rich, moist, humus soils [7].

There are more than 70 cultivated varieties of black pepper existing in India [9]. They differ in size and colour of berries, length and shape of spikes, yield, and in resistance to diseases and pests.

Marked difference in the chemical composition of berries due to genetical and other factors is observed. Due to difference in the concentration of terpenes and other oxygenated compounds, wide variations in the odour quality of pepper oils from the cultivars have been observed. The yields of NVE (Non-Volatile Extracts) and also the piperine content of NVE differ widely in some of these varieties. Many *P. nigrum* vines are seen to flourish well in the Western Ghat forests of S.W. India.

The chemical compositions of berries, stalks and husks of cultivated varieties, trade grades and by-products have been studied in the past [4–6]. In the present study, eight wild types of black pepper (berries) were screened for their commercially important chemical constituents. This information could be of use in programmes for the improvement of the chemical quality of black pepper.

Qual Plant Plant Foods Hum Nutr 30: 199–202 (1981) 0377–3205/81/0303–199 $00.60.