

Nutrient composition and physico-chemical properties of medicinal rice – *Njavara*

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■ **ABSTRACT** : *Njavara*, with two varieties *Njavara* Black (NB) and *Njavara* Yellow (NY) and *Hraswa* a non-medicinal variety, was assessed for its nutrient composition and physico-chemical characteristics. The results shows that compared to the non-medicinal rice *Hraswa*, *Njavara* has high amount of energy, protein, vitamin-B and minerals.

■ **KEY WORDS** : *Njavara*, *Hraswa*, rice, Varieties, Characteristics

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Rice (*Oryza sativa* L.) is one of the most important food crops of the world and India is the largest rice growing country in the world (Pandey and Anurag, 2010). According to Pandey *et al.* (2010) it is the most important food crop of India with world ranking first in area and second to China in production.

Rice has been used as a medicine by traditional healers from time immemorial. Kerala has an immense wealth of medicinal rice cultivars. Among the various medicinal rices, *Njavara* is a unique grain plant in the *Oryza* genus indigenous to Kerala, widely used in the Ayurvedic system of medicine, especially in Panchakarma treatment. Documents show that it has been under cultivation in Kerala for about 2500 years since the time of Susruta.

No other medicinal rice is used in the world as widely as *Njavara* in Ayurveda. Its importance as a health food offers opportunity to establish niche global market.

'Ashtanga Hridaya' describes two types of *Njavara*—black and white. According to the farmers and healers it is a precious gift from God to the "God's own Country" Kerala.

Njavara rice, with a distinct gene pool and medicinal properties, can be exploited as nutraceutical rice (Deepa *et al.*, 2009; Sulochana and Bakiyalakshmi, 2011).

Studies related to nutrient composition in *Njavara* rice

are rather limited. So, the present study is an attempt to investigate the above said indicators in comparison with a non-medicinal variety *Hraswa*.

The research was carried out at the Department of Home Science, College of Agriculture Vellayani, Thiruvananthapuram, Kerala Agricultural University.

Njavara rice varieties [Njavara black (NB) and Njavara yellow (NY)] were collected from Rice Research Station of Kerala Agriculture University, Moncompu and *Hraswa* was collected from Agriculture Research Station, Mannuthy, Thrissur and were processed into raw milled. The raw milled rice of the three varieties was stored in airtight containers for undertaking various laboratory analysis.

Different quality parameters studied on the materials were:

- Physical characteristics
- Chemical/Nutritional composition

Under physical characteristics, the following characters like moisture content (A.O.A.C,1990), size (IRRI, 1996), shape (IRRI, 1996), length and width (using a screw gauge), length-breadth ratio (L/B ratio) (Pillaiyar and Mohandoss,1981).colour (by direct observation), thousand grain weight (Sindhu *et al.*, 1975) , gel consistency (Cagampang *et al.*, 1973), bulk density, gelatinization temperature (Mac Masters, 1964), chalkiness